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Interdisciplinary Perspectives

ID640 Screening for Oropharyngeal Fungal Carriage and Fungal Carriage on the Dorsal Surface of the Tongue in Dental Students

Gabriela Bancescu¹, Andreea-Maria Voiculescu¹, Lidia Sfetcu¹

¹"Carol Davila" University of Medicine and Pharmacy, Bucharest, Romania

Objective: It was aimed to detect the frequency of oropharyngeal fungal carriage and the frequency of fungal carriage on the dorsal surface of the tongue among a group of 205 dental students in the second year of studies at "Carol Davila" University of Medicine and Pharmacy (CD-UMF), Bucharest.

Method: Oropharyngeal swab samples and swab samples collected by rubbing the dorsal surface of the tongue were obtained from 53 male students and 152 female students from the last 2 series of second-year students, aged 19-33, at the Department of Microbiology of the Faculty of Dentistry, CD-UMF, during January - April 2019. Samples were immediately cultured on Sabouraud dextrose agar with chloramphenicol (BioMaxima/Graso Tech, Poland). Fungal isolates were identified to species level by the ID 32 C system (BioMérieux, France). The germ tube test and culture on chromogenic agar for *Candida* (Graso Tech, Poland) were also performed.

Results: In total, 32 fungal strains were isolated from 2 oropharyngeal swab samples and 30 swab samples from the dorsal surface of the tongue. Thirty isolates showed a positive result for the germ tube test, developed green colonies on chromogenic agar and were identified as *Candida albicans* by the ID 32 C system. Two isolates showed a negative result for the germ tube test and were identified by the ID 32 C system as *Candida parapsilosis* and *Candida krusei*. The latter developed pink and rough colonies on chromogenic agar, which corresponded to the colony characteristics produced by isolates belonging to this species.

Conclusion: All fungal isolates were yeasts belonging to the genus *Candida*, with *C. albicans* predominating. In this group of subjects, the frequency of oropharyngeal *Candida* carriers was 0.97% and the frequency of carriers of *Candida* on the dorsal surface of the tongue was 14.63%, which were lower than those reported by other authors.

ID642 Genetic Testing for Dental Disorders

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Objective: In this study, we examined the implementation of genetic testing in pediatric patients with oral health issues. We emphasized effective approaches for identifying chromosomal and gene anomalies within our dental clinical practice.

Methods: A total of 93 children, aged between 7 to 18 years old, with syndromic and non-syndromic oro-dental anomalies were investigated. Clinical and radiographical assessments were performed, followed by a detailed investigation into the personal and family medical history of the patients with oro-dental anomalies. Molecular tests were performed using a panel of nine genes associated with familial tooth agenesis, along with other genetic tests targeting chromosomes or genes linked to syndromes caused by chromosomal anomalies and gene mutations.

Results: The study primarily focused on syndromes arising from chromosomal anomalies, such as Down syndrome, and gene mutations, such as Cleidocranial Dysplasia, Fabry disease, all known to exhibit oral and dental anomalies in permanent dentition. Among the participants, various degrees of oro-dental phenotypes were observed. Notably, micrognathia was frequently associated with dental anomalies and malocclusion. Moreover, tooth number anomalies presented in two forms: agenesis and multiple supernumerary teeth. Enamel hypoplasia, premature and delayed eruption, and dental size anomalies were also noted. Regarding familial tooth agenesis, our study investigated the occurrence of missing teeth within families. We observed patterns of tooth agenesis that suggested a genetic basis for this condition. By analyzing family members with this trait, we aimed to identify potential genetic markers or mutations associated with familial tooth agenesis. This investigation may contribute to a better understanding of the hereditary aspects of dental anomalies and aid in genetic counseling for affected individuals and their families.

Conclusion: Genetics has the potential to significantly impact dental education and practice. As part of precision medicine, dentists must incorporate genetic tools into their practice to predict, prevent and provide personalized dental therapy.

ID715 Aspects Regarding Monolithic Zirconia's Interactions with the Oral Environment: An In Vitro Study

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²University of Bucharest

Objectives: This *in vitro* study aimed to investigate the influence of monolithic zirconia surface treatments on diverse oral microorganism adhesion capacity and biofilm formation.

Materials and Methods: Cylindrical samples of sintered zirconia (n=50) (KATANA™ Zirconia STML, Kuraray Noritake Dental Inc., Tokyo, Japan) and titanium alloy control samples (n=10) (Starbond Ti5 Disc, Scheftner Dental alloys GmbH, Mainz, Germany) were obtained using CAD/CAM technology. The sintered zirconia samples were divided into five groups, each comprising 10 samples, based on the performed surface interventions: no interventions (group 1), sandblasting (Group 2), polishing (group 3), polishing and glazing (group 4), polishing, glazing, grinding, and re-polishing (group 5). Three types of oral microorganisms, namely *Candida Albicans* ATC 10231, *Enterococcus faecalis* ATCC 29212, and *Escherichia coli* ATCC 25922, were used in this study. Adhesion capacity was evaluated at 2 hours and 6 hours, and biofilm formation was assessed after 24 hours under standard conditions at 37°C.

Results: Groups 4 and 3 exhibited significantly lower adhesion capacity of the tested microorganisms, particularly for *Candida Albicans* (group 4: 180 CFU/ml at 2 hours and 320 CFU/ml at 6 hours; group 3: 350 CFU/ml at 2 hours and 390 CFU/ml at 6 hours). Moreover, groups 5, 4, and 3 demonstrated the highest ability to inhibit biofilm development at 24 hours, particularly for *Candida Albicans* (group 5: 550 CFU/ml, group 4: 630 CFU/ml, group 3: 800 CFU/ml).

Conclusions: The polished and glazed monolithic zirconia surfaces exhibited the lowest adhesion capacity for the tested oral microorganisms and showed significant potential in inhibiting biofilm formation. These results highlight the importance of appropriate surface treatments in enhancing the antimicrobial properties of zirconia, which could have promising clinical implications in dentistry.

ID783 Advantages of eggshell provisional restorations designed with dental CAD software in contrast to direct provisional restorations

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Provisional restorations should fulfill several main purposes: protection of abutment teeth and soft tissues, aesthetics, phonetics and masticatory function in at least two situations: one, without any change of tooth shape and position and another, a therapeutic or diagnostic provisional, which is testing a changed tooth shape and position.

Objectives: To determine which method is better from dentist and patient point of view.

Method: There were selected 20 adult patients which treatment plan included 2 similar and separate temporary restorations from a single crown to a three unit bridge or larger, but less than a full arch. One was made by direct technique (Zeta Plus impression material- Zhermack and Luxatemp Star- DMG) and the other by eggshell provisional technique (digital scanner Medit i700, Medit temporary App and PMMA milled temporary lined with Luxatemp Star DMG).

By the end of each treatment, dentists and patients had fulfilled a 15 question survey about chair time, comfort, functions (aesthetics, phonetics, masticatory), mechanical properties, definitive restorations, costs.

Results: Compared to a direct provisional, eggshell provisional restorations offers chair time saving, better functions, including additional aesthetics, easier tooth changes by virtual modeling. All patient wishes and needs can be taken into account and transferred in the definitive restoration. They can be done easy by dentist using Medit temporary App or by dental technician, a milling machine and PMMA disc.

Conclusion: Advances in CAD-CAM dental technologies are helpful for both dentist and patient. One could say that the costs are higher, the learning curve is difficult, but overall the advantages of the eggshell provisional restoration technique are surpassing the disadvantages.

ID628 Phenolic content and antioxidant activity of *Tanacetum vulgare* L. (tansy) flowers

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Tansy (*Tanacetum vulgare* L.) is a wild-growing aromatic medicinal plant from the Asteraceae family. Medicines are made from the flowers (*Tanacetiflos*) or aerial parts (*Tanacetiherva*), which are both a source of essential oil, phenolic compounds, minerals and sterols, with various pharmacological properties.

Objectives: The aim of our study was the phytochemical analysis and evaluation of antioxidant capacity of *Tanacetiflos*.

Material and methods: As material we have used the air dried tansy flowers, harvested in July 2019, from Apuseni mountains, Romania. Further analysis were conducted on a freeze-dried herbal extract (TE), obtained using 70% ethanol as the extraction solvent. Phytochemical analysis of TE, was determined by means of qualitative (specific chemical reactions and thin layer chromatography) and quantitative methods. Spectrophotometric assays have been used for evaluation of total phenolic (expressed as galic acid equivalents), flavones (expressed as hyperoside equivalents) and phenolcarboxylic acids (expressed as chlorogenic acid equivalents) contents. Antioxidant capacity was assessed by scavenger activity towards DPPH (2,2-diphenyl-1-picrylhydrazyl), ABTS^{•+} (2,2'-azinobis-(3-ethylbenzothiazoline-6-sulfonic acid) free radicals, ferric reducing properties and ferrous ion chelating assay. The antioxidant activity was expressed as EC₅₀ (mg/ml), trolox equivalents (mM /g dry extract) - for DPPH, ABTS^{•+} and ferric reducing assays and EDTA disodium salt equivalents (mM /g dry extract) - for ferrous ion chelating method.

Results: Qualitative analysis revealed that TE is a source of flavones, phenolcarboxylic acids, tannins and sterols. TLC revealed the presence of rutin, hyperoside, chlorogenic and caffeic acids. According to our spectrophotometric results TE has a high content of flavones (10.88 g%), phenolcarboxylic acids (22.20 g%) and a total phenolic content of 23.02 g%. Regarding the antioxidant capacity, TE has shown good results by means of all methods.

Conclusions: According to our results tansy flowers are a source of natural compounds and might be used in therapeutics for their antioxidant potential.

ID648 New sulphanilamide Schiff base derivatives as antimicrobial agents

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Objectives: Antimicrobial resistance is a constant problem to the modern world and the current pipeline of agents is not sufficient to overcome it. Biofilm formation also reduces the efficacy of treatments leading to persistent or chronic infections. Sulphanilamide is a short acting sulphonamide, a bacteriostatic agent with large spectrum which inhibits dihydropteroate synthetase in bacteria and protozoa. Even though it is no longer used in therapy, its simplicity and pharmacological importance make it a suitable target for drug functionalization. In this light, the current study presents the antibacterial and antibiofilm assessments of five Schiff base derivatives of this well-established chemotherapeutic agent.

Methods: The antimicrobial activity of the synthesized Schiff bases and sulphanilamide was evaluated against four standards bacterial strains (*Escherichia coli* ATCC 25922, *Pseudomonas aeruginosa* ATCC 27853, *Enterococcus faecalis* ATCC 29212, *Staphylococcus aureus* ATCC 25923) using qualitative (agar diffusion method) and quantitative methods [minimum inhibitory concentration (MIC)]. The crystal violet staining assay was used to quantify biofilm inhibition.

Results: Gram-positive bacteria were susceptible to the action of the tested compounds, whereas Gram-negative strains remained mainly unaffected. Schiff bases presented lower MICs than sulphanilamide indicating greater activity. The order of potency depended on the strain employed: trichlorinated compound was the most active on *E. faecalis*, while bromo and dichloro derivatives were the most potent against *S. aureus*. Bacterial adherence to inert substrata in order to form biofilm was inhibited by the same compounds that exhibited antibacterial activity at concentrations closed to MIC, the order remaining the same as before.

Conclusion: The analysed sulphanilamide derivatives inhibited the tested Gram-positive bacteria, surpassing the parent drug in both antibacterial and antibiofilm assays. The order of potency was different according to the strain assessed, but, in summary, the halogenated compounds were the most active.

ID651 The *in Silico* Pharmacokinetic, Pharmacodynamic and Pharmacotoxicological Study of Some New Dibenzothiepins as Potential Treatment of Phobic Disorders

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Objectives: Phobias are a type of anxiety disorder characterized by an excessive and irrational fear of an object, activity, or situation. This pathology, although it affects about 8% of adults, does not benefit from a specific treatment. The dibenzothiepine derivatives, tricyclic agents with a large use in therapy, primarily as antidepressants, could be hit compounds, with potential in this pharmacotherapeutic direction. Present study focuses on the *in silico* pharmacokinetic, pharmacodynamic and pharmacotoxicological studies of some new dibenzothiepins, as potential phobia treatment.

Materials and Methods: The new dibenzothiepins were previously synthesized following a multistep synthesis starting from phthalide and different thiophenols. *In silico* studies were performed using prediction tools: SwissADME, PassOnline, ADVERPred.

Results: SwissADME predicted good pharmacokinetic properties in terms of solubility and high gastrointestinal absorption. The bioavailability score, which predicts the fraction of an orally administered compound that reaches systemic circulation, with a value of 0.55 indicates a good profile. The predicted pharmacokinetic characteristics are favorable for expressing a potential psychotropic activity. The compounds meet the druglikeness rules like: Lipinski rule, Veber and BBB rule. The predicted toxicological profile indicates that all the compounds are inhibitors of CYP2C9, CYP2C19 and CYP3A4 isoforms, which means that they can accumulate in the body and cause toxic effects. PASS online indicated for all compounds a good probability to be active in phobic disorders treatment.

Conclusions: The most active compounds, were molecules noted 1, 5 and 9, with the best profile for molecule 1. These current predictions will be further verified by *in vivo* tests.

ID652 The relevance of phytotherapy in the management of diabetes mellitus

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Introduction. Diabetes mellitus is a group of common endocrine diseases, with a chronic evolution, characterized by disruptions of carbohydrate (especially), lipid and protein metabolism. The International Diabetes Federation (IDF) reports a continued global increase in diabetes prevalence. As of 2021, an estimated 537 million people had diabetes worldwide, with 61 million people in Europe, and 1.199 million people in Romania. These numbers are predicted to rise in 2045 to 783 million people worldwide, 69 million people in Europe, respectively, but will drop to 1.128 million people in Romania. Nowadays, phytotherapy can provide viable solutions to many health problems, including diabetes mellitus.

Objectives. Current study aims to evaluate the level of knowledge and use of herbals in the treatment of diabetes mellitus.

Method. A questionnaire was created and distributed online.

Results. 80 responses were received, both from patients with diabetes and from healthy people, aged over 18, and with various levels of education. Most of respondents have high and very high confidence in the use of phytopreparations for the treatment of diabetes. Phytotherapy is well known, while gemotherapy and homeopathy are less known. Bitter-cucumber fruit (*Momordica charantiae fructus*), bilberry leaves (*Myrtilli folium*), mulberry leaves (*Mori folium*) and sage leaves (*Salviae folium*) are the best known herbal remedies. Most diabetic respondents also use a phytopreparation, which was recommended by a doctor or a pharmacist.

Conclusion. The pharmacist and the doctor can have an important role in the management of diabetes, by recommending phytopreparations.

ID657 Compatibility and morphology assessment of collagen and mucoadhesive polymers-based composites for vaginal administration

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Objectives: Among the drawbacks of drug delivery platforms for vaginal administration, short residence time and leakage remain two of the most prominent. Thus, the objective of this study was to develop some composites based on collagen and two mucoadhesive polymers, and to assess polymers compatibility and the morphology of designed formulations.

Methods: 1% collagen gel was mixed in different ratios with either 2% hydroxypropyl methylcellulose (HPMC) or 0.5% Carbomer 940 hydrogels, and the obtained formulations were then lyophilized. The hydrogels were assessed in terms of rheological behaviour and by circular dichroism. The freeze-dried wafers were evaluated by FT-IR spectroscopy, thermogravimetric analysis, SEM, contact angle and water up-take capacity.

Results: All hydrogels displayed a non-Newtonian pseudoplastic behaviour. Circular dichroism revealed that the addition of HPMC did not affect the secondary structure of collagen, in contrast to the addition of Carbomer 940. The FT-IR spectra showed the specific peaks of collagen and of the two mucoadhesive polymers. SEM images illustrated the microporous structure of collagen and Carbomer 940, while for HPMC samples a sheet-like structure can be noted. Thermogravimetric analysis showed that the addition of Carbomer 940 decreased the thermal stability of collagen, while HPMC promoted an increase in thermal stability. Contact angle values did not exceed 90°, suggesting good hydrophilicity of the wafers, also confirmed through water up-take capacity evaluation.

Conclusions: The addition of HPMC did not influence in a significant way the structural integrity of collagen and improved its thermal stability, in contrast with the addition of Carbomer 940. COL-HPMC1 sample (75% collagen, 25% HPMC) had the best performance through all the analysis, and could represent

a starting point for developing mucoadhesive drug delivery platforms intended for vaginal drug administration.

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ID658 Study of fenofibrate - RAMEB inclusion complex

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Objectives: New technologies in the pharmaceutical field (such as micro- and nano-encapsulation, complexation with cyclodextrins, solubilization with co-solvents, solid dispersions, micro- and nano-emulsions or suspensions, nanoparticulate forms etc.) can diminish certain drawbacks and allow for pharmaceutical entities and dosage forms with increased bioavailability. We have set out to study the possibility of modifying the solubility of fenofibrate - a drug insoluble in aqueous media, following complexation with methyl-β-cyclodextrin (RAMEB), which could increase its bioavailability during administration.

Method: The inclusion complex of fenofibrate with RAMEB characterization was done by infrared spectra (FT-IR), thermal analysis (differential scanning calorimetry, DSC), effective solubility of fenofibrate in the presence of methyl-β-cyclodextrin, complexation efficiency and fenofibrate : RAMEB ratio. The phase-solubility diagrams determined according to Higuchi and Connors allow the fenofibrate - RAMEB inclusion complex solubility and stability to be characterized.

Results and conclusions: The effect of RAMEB complexation on fenofibrate solubility is maximal at pH 5 - an increase in fenofibrate solubility of about 40-fold occurs. The spectrophotometric study carried out resulted in AL plots, in which the concentration of dissolved active substance increases linearly with the amount of RAMEB added. The regression curve parameters were used to determine the combination ratio and to calculate the complexation efficiency (CE).

ID672 Use of silver nanoparticles as a colorimetric sensor for the spectrophotometric determination of some cephalosporins in bulk and capsules

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Objectives: The study aimed to develop sensitive methods for the assay of two cephalosporins (cephalexin and cefaclor) in powder and pharmaceutical dosage forms using silver nanoparticles as colorimetric sensors, which are known to have particularly interesting optical properties. Dispersed in a liquid medium, silver nanoparticles exhibit a strong absorption band in UV-Vis leading to high absorption coefficients and increased sensitivity.

Method: Silver nanoparticles were obtained under the reducing action of the degradation products in basic medium of the studied cephalosporins (cephalexin and cefaclor). The experimental conditions determine the size and shape of the silver nanoparticles so that the color of the solution and the wavelength of the absorption maximum are different. Therefore, the influence of different experimental factors such as the amount of reagents, their addition order, temperature and reaction time was studied. The ranges of cephalosporin concentrations for which there is a linear variation of absorbance with concentration (0.7 and 3.6 µg cephalexin/mL, respectively 0.8 - 3 µg cefaclor/mL) were determined and validation studies were performed.

Results and conclusions: Two sensitive methods based on the reduction of Ag⁺ ions by cephalosporins in alkaline medium, under heat, have been developed. The formed silver nanoparticles, dispersed in solution with the help of polyvinylpyrrolidone, exhibit the surface plasmon resonance phenomenon, the obtained yellow colloidal solutions having a pronounced absorption peak at 410 nm. The methods were applied to the assay of cephalexin and cefaclor from capsules without interference from excipients.

ID673 HPLC detection of PDE-5 inhibitors as adulterants in food supplements for erectile dysfunction

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Objectives: Erectile dysfunction is the inability to achieve or to maintain an erection during sexual activity. Having multiple causes, this affects almost 30% of men aged over 40 years. Clinical evidence to support the use natural compounds on erectile dysfunction is minimal. Therefore, PDE-5 inhibitors are frequently illegally used as adulterants in herbal-declared products that aim to enhance sexual performance. The study objective is to detect the adulteration of some food supplements for erectile dysfunction by HPLC.

Methods: Fifteen products purchased from the internet or specialized stores were analyzed using the UV reverse phase HPLC method from the United States Pharmacopoeia monograph "Sildenafil tablets" slightly adapted.

Results: The presence of sildenafil, tadalafil, or both compounds was demonstrated in the majority of food supplements for erectile dysfunction included in the study.

Conclusions: The current study highlighted inadequacies and inconsistencies in the labeling, as all food supplements for erectile dysfunction analyzed were declared to be natural.

ID681 Recent advances in the chemistry of 1,2,4-triazoles with dibenzo[a,d][7]annulene moiety

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Objectives: Among the different heterocyclic compounds, 1,2,4-triazoles are known due to their broad range of chemical and pharmacological activities, such as antimicrobial, antiviral, antitumoral, anticonvulsant, antioxidant, antidepressant, antitubercular and analgesic. The 1,2,4-triazole nucleus has become an important synthon in the development of new drugs.

Considering the pharmacologic profile of 1,2,4-triazole derivatives we thought that the synthesis and investigation of the toxicity of new 1,2,4-triazoles with dibenzo[a,d][7]annulene moiety present interest.

Materials and method: Nine new compounds with 5-H-dibenzo[a,d][7]annulene moiety were synthesized.

By the reaction of 2-(5H-dibenzo[a,d][7]annulen-5-yl)acetohydrazide with different arylisothiocyanates resulted three new hydrazinecarbothioamides. Cyclization of hydrazinecarbothioamides in NaOH solution produced the corresponding 4H-1,2,4-triazole-3-thiols. The reaction of 4H-1,2,4-triazole-3-thiols with ethyl chloroacetate in basic media afforded new S-alkylated derivatives.

All the new compounds were characterized by IR, ¹H-NMR, and ¹³C-NMR. Considering the therapeutic potential of the new compounds, we evaluated the toxicity of new compounds using *Daphnia* bioassay.

Daphnia species, especially *D. pulex* and *D. magna*, are widely acknowledged as valuable model organisms for toxicity testing due to their well-characterized biology and high sensitivity to chemicals. They serve as essential indicators of environmental stress and are ideal for conducting preliminary tests on newly synthesized compounds. The bioassays are efficient, cost-effective, and yield comprehensive information on the impact of chemical compounds on whole organisms.

The toxicity of newly synthesized compounds was evaluated using the method of successive dilutions on two crustacean *Daphnia* species. Six concentrations of each compound were tested, and when feasible, the LC50 (lethal concentration for 50% mortality) was calculated by interpolating on the lethality curve.

Results: The structure of new compounds was confirmed by spectral methods. The toxicity of new compounds was evaluated using the method of successive dilutions on two crustacean *Daphnia* species.

Conclusions: This paper, describes the synthesis, spectral characterization, and toxicity test of nine compounds with 5H-dibenzo[a,d][7]annulene moiety.

ID683 Vierodt's and Q-absorption ratio spectrophotometric methods for simultaneous determination of drotaverine hydrochloride and paracetamol in bulk

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Aim: Fixed dose combinations are nowadays at the glance in the pharmaceutical development domain, due to the potential and reliable advantages: enhanced compliance, easy way of administration, reduced costs, synergistic tolerability, minimising pill burden. Overall, the evidence suggests that fixed-dose combination formulations among with unit-of-use packaging are likely to improve adherence in a range of settings, but the limitations of the available evidence means that uncertainty remains about the size of these benefits.

Methods: Two simple, precise, accurate, and sensitive spectrophotometric methods, Vierodt's method and Q absorption ratio method have been described for the simultaneous estimation of drotaverine hydrochloride (DRO) and paracetamol (APAP) in a binary bulk mixture.

Results: Absorption maxima of drotaverine hydrochloride and paracetamol in 0.05N NaOH was found to be 228 nm and 245 nm respectively. Drotaverine hydrochloride and Paracetamol obey Beer's law in the concentration range 5-60 µg/mL (r²=0.9901) and 5-30 µg/mL (r²=0.9917) in 0.05 N NaOH and mean recovery for drotaverine hydrochloride and paracetamol were found to be 100.75±0.74% and 100.27±0.70%, respectively (for the first method). Q absorption ratio method employs 238.8 nm as λ₁ (Isobestic point) and 245 nm as λ₂ (λ_{max} of Paracetamol) for formation of equations. Drotaverine hydrochloride and paracetamol obey Beer's law in the concentration range 5-80 µg/mL (r²=0.9993) and 2-30 µg/mL (r²=0.9997) in 0.05 N NaOH. The mean recovery for Drotaverine hydrochloride and Paracetamol were found to be 100.47 ± 0.10% and 100.006 ± 0.136%.

Conclusions: The results of the two methods were validated statistically and can be successfully applied for the routine analysis of drotaverine hydrochloride and paracetamol in bulk and further, in combined dosage forms.

ID711 Applying Chitosan properties in designing of innovative systems for intranasal insulin delivery

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Objectives: This work presents an innovative therapeutic systems design based on chitosan and polyvinyl alcohol (PVA), for insulin administration in nasal cavity, determining their surface properties, rheological profile, and evaluating the *in vitro* drug release. The intranasal insulin administration could increase the children adherence to the diabetes treatment and has favorable effects in central nervous system (CNS)-associated diseases, because it bypasses blood-brain barrier.

Methods: The formulation was based on chitosan 1%, 1.5% and 2%, due to the mucoadhesive and mucosal permeability enhancer proprieties, and PVA 1%. The ratio between them was 2:1, 1:2 and 1:1. Insulin was incorporated at concentration 5, 7.5 and 10 UI/g. The pH was evaluated to determine the chitosan stability. The analysis was conducted for surface properties, rheological profile, and *in vitro* drug release.

Results: The values of the contact angle were below 90°, indicating a good wetting capacity. The surface tension values are lower than that of the nasal mucosa, allowing the display of colloidal systems on the surface of the nasal mucosa, which resulting in a good spreading capacity of the systems. The samples have an adequate flow for nasal administration. From the *in vitro* drug release, the Higuchi model was followed, and the diffusion coefficients were evaluated. The rapid release of the insulin was according to our objective.

Conclusions: This system could be suitable for the treatment of the diabetes due to their properties, but also for the benefits of intranasal insulin administration in CNS-associated diseases, such as Alzheimer disease, and cognitive impairment. The perspectives of using chitosan are still very broad and new applications of it can be discovered, in this context the designed formulations could be used for further studies.

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ID720 Study on obtaining topical preparations used in rosacea acne

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Objectives Rosacea acne is a chronic, inflammatory skin condition, characterized by intermittent or permanent erythema, telangiectasias, papulopustular inflammatory lesions, and phymatous changes, with a not inconsiderable emotional impact on the patient's social life. This study's objective was to create and evaluate topical preparations used for the treatment of rosacea acne, with natural ingredients (essential oils, fixed oils, vitamins, plant extracts) with anti-inflammatory, antioxidant, venotonic and capillary fragility reduction action. It was also aimed at obtaining a moisturizing effect and protecting the skin barrier. Active ingredients with less irritating action compared to semi-synthetic and synthetic ingredients were included such as oat oil, wheat germ oil, borage oil, Boswellia oil, Centella Asiatica oil, cypress essential oil, frankincense oil, wild chestnut and red vine extract, vitamin E and B3, bisabolol, hyaluronic acid, aloe gel. Metronidazole (0.75%) has also been used in certain formulations to reduce erythema and inflammation.

Method: A H/L cream, two L/H creams, an emulgel based on xanthan 4% and a serum with the justification of the choice of active ingredients and excipients were made. Immediately after preparation and at a certain time interval, the following determinations were made for the resulting preparations: organoleptic control, pH determination (potentiometric method), and plasticity determination (Ojeda Arboussa method). To control the preparations' *in vivo* performance, their application's influence on the degree of skin hydration was studied (Corneometer CM825) and the melanin and erythema index in the skin was determined (Mexameter MX18).

Results. From the determinations, the creams and emulgel had a good stretching capacity, hydrated the skin, and decreased the degree of erythema, without negatively influencing the physiological pH.

Conclusions. The results being good, these topical preparations can be starting points to obtain products used in the treatment of rosacea acne.

ID667 Risk of transmission of infectious diseases in dentistry

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Objectives: Bloodborne pathogens such as hepatitis B virus, human immunodeficiency virus, and hepatitis C virus can infect healthcare professionals and patients. The aim of the study was to evaluate the knowledge and practices of patients and healthcare workers in preventing transmission of infections in the dentistry field.

Method: A cross-sectional online survey was applied between January 1st, 2023 and June 30th, 2023, to evaluate the knowledge and practices of healthcare workers in the dentistry field and general population benefiting of these services.

Results: The study included 122 participants, of which 84% were female, and 87% of young age (18-25 years old). Most of the participants were from the urban area and had a University degree. It is encouraging that the majority were fully vaccinated according to the National vaccination program. Although most of the participants recognised the main transmission routes of HBV, HCV and HIV, they also have selected wrong answers, which might lead to stigma towards infected people. It is worrisome that more than half of the participants do not use condom during sexual intercourse, although more than a third has multiple partners, aspect which represents an increased risk factor.

Conclusions: The use of protective barriers and suitable sterilisation or disinfection techniques are among the infection control measures that should be consistently followed. Each dental clinic should create a written protocol for managing injuries, cleaning the operatory site, and reprocessing instruments.

ID668 Implementation of Gram negative cumulative antibiogram data to enhance antibiotic stewardship capacity in a pulmonary hospital from Romania

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Objective: In recent years Romania was considered one of the countries with the highest burden of infectious diseases produced by antimicrobial resistant bacteria in Europe. Knowing the local antimicrobial resistance is critical for raising awareness in the community and for a better empiric therapy management until antibiotic susceptibility tests are available.

Our aim was to develop and implement a cumulative antibiogram and compare the evolution of antibiotic susceptibility for two years.

Method: We created a cumulative antibiogram including data from 1st January 2021 to 31st December 2022 in Marius Nasta National Pneumophtisiology Hospital, Bucharest Romania, following the CLSI guideline M39. For each patient we considered only the antibiogram from the first isolate, including only diagnostic not surveillance isolates, considering only species with at least 30 isolates per six months. We separated and compared the two years. We included in the tables the percentages of susceptible strains.

Results: We included three fermentative species (Klebsiella, Enterobacter and Escherichia) and two non-fermenters (Acinetobacter and Pseudomonas). The antimicrobial resistance degree was low to moderate, with a good susceptibility in aminoglycosides (over 80%) in all included isolates. We have noticed a high susceptibility in carbapenem, especially in fermenters (over 90%). The susceptibility percentage was reduced in cephalosporins (38-45%) and fluoroquinolones (43-67%). Comparing the two years, for all tested antibiotics the susceptibility percentage decreased with 2-8%.

Conclusions: Overall the antibiotic resistance was low to moderate, with encouraging results for some classes, like aminoglycosides and carbapenems. It is concerning the significant decrease of susceptibility from one year to another. Implementing the cumulative antibiogram could lead to a better antibiotic use and a decrease of the accelerated antibiotic resistance noticed in results from comparing only two years.

ID669 Non-Tuberculous Mycobacteria identified in 2022 in Marius Nasta Pneumophthisiology Institute, Romania

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Background: Non-Tuberculous Mycobacteria (NTM) are a group of over 200 species which can cause a variety of infections in humans and animals, sometimes raising difficulties in diagnosis and treatment.

Our aim was to determine the species of NTM strains identified over a year and the demographic characteristics of the patients.

Methods: We evaluated the NTM strains identified in 2022, in the reference laboratory of Marius Nasta National Pneumophthisiology Institute, which covers the south-east of Romania. The strains were identified through grown culture characteristics, microscopic examination, immunochromatographic testing (MPT64 Antigen), Line Probe Assay (LPA - GenoType Mycobacterium AS and GenoType Mycobacterium CM) and drug resistance tests were performed.

Results: Between January 1st and 31st December 2022, we included 142 strains from 115 patients, of which 58 were women. Most of the patients were between 26 and 75 years old, with two peaks in the age groups 46-55 and 66-75 years old. Most of the cases were identified in the big cities and counties, Bucharest, Neamt, Gorj and Dolj. A third of the patients (32.17%) were diagnosed with tuberculosis as well. The most frequent identified strains were *M. fortuitum* group (30.43%), *M. avium* (14.78%), *M. abscessus* complex (13.91%), *M. chelonae* (12.17%) and *M. gordonae* (11.30%).

Conclusions: *M. fortuitum* was the most frequent isolated specie but is rarely associated with significant lung disease. There is an increasing NTM disease (particularly lung disease) prevalence, especially in older and female patients. In some countries in the context of tuberculosis decrease, the NTM should be considered as possible diagnosis. Our data highlight the importance of interpreting the results in clinical context, according to the international guidelines.

ID670 Etiology and evolution of severe acute respiratory infections (SARI) in a pediatric hospital during the pre- and Covid-19 pandemic period

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Background: Our study aims to describe the etiology and evolution of severe acute respiratory infections (SARI) in pediatric patients admitted to a hospital from Bucharest, nominated as part of the national surveillance sentinel system for SARI.

Method: We conducted a retrospective study regarding SARI cases recorded in five seasons in pre and COVID-19 pandemic period (2018-2019 to 2022-2023). All cases that met the national surveillance case definition criteria for SARI were included. Data were collected from the SARI case surveillance form, and Microsoft Excel program was used to analyze the frequency of the cases, etiology, and severity.

Results: The 91 cases of SARI included in the study were distributed by season as follows: 6 cases (6,6%) in the 2018-2019 season, 7 cases (7,7%) in the 2019-2020 season, 17 cases (18,7%) in the 2020-2021 season, 24 cases (26,4%) in the 2021-2022 season, and 37 cases (40,6%) in the 2022-2023 season.

In the pre-pandemic seasons (2018-2019, 2019-2020) were registered 10 (76,9%) cases of influenza virus infections, 3 (23%) cases of respiratory syncytial virus (RSV) infections, and 1 (7,7%) case of SARS-CoV-2 infection.

During pandemic seasons (2020-2021, 2021-2022) were registered 11 (26,8%) cases of SARS-CoV-2 infections, 3 (7,3%) cases of influenza viruses infections, 3 (3,7%) cases of RSV infections, 6 (14,6%) cases of Rhinovirus infections, 4 (9,7%) cases of Metapneumovirus infections, and 1 (2,4%) case of Adenovirus infection. The 2022-2023 season registered 22 (59,4%) cases of RSV infections, 13 (35,1%) cases of Rhinovirus infections, 7 (18,9) cases of influenza viruses infections, 5 (13,5%) cases of Adenovirus infection, and 1 (2,7%) case of SARS-CoV-2 infection.

Nine deaths were recorded over the five seasons; 8 had influenza virus infections.

Conclusions: Most SARI cases were recorded in the Covid-19 pandemic seasons.

SARI's etiology differed by season, with a higher frequency of influenza cases and deaths in pre-COVID-19 pandemic seasons.

Knowing the frequency and etiology of SARI is essential for implementing prevention measures.

ID677 The characteristics and evolution of healthcare-associated infections in the last year of Covid-19 pandemic

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Objectives: We aim to present the characteristics and evolution of healthcare-associated infections (HAIs) in a tertiary care hospital, with main urologic pathology and national addressability, in the last year of Covid-19 pandemic.

Materials and Methods: We enrolled in our retrospective study all the patients with reported HAI or colonization from all patients hospitalized in "Prof. Dr. Th. Burghel" Clinical Hospital from the beginning of June 2022 to the end of May 2023. The HAIs were identified based on the case definitions provided by national surveillance methodology.

After validation of reported HAIs, we reclassified 15% of it and found out 3 unreported HAIs. A total number of 524 colonization and 84 HAIs were analyzed.

Results: The HAIs have bacterial and viral etiology (all Covid-19 infections). HAIs have two peaks, first in July 2022 and the second one in March and April 2023. In these months the number of Covid-19 HAIs was greater than in general and the number of bacterial HAIs was greater too, except in July. 11% of bacterial HAIs are produced by XDR germs and 59% by MDR.

The colonization have bacterial and fungal etiology. The incidence of detected colonization per month oscillates between 3% and 12%. From 522 bacterial colonization 4% are XDR germs, 73% are MDR and 23% with no resistance.

We identified XDR strains of Klebsiella, Proteus, Escherichia coli and Enterococcus in both HAIs and colonization. The higher levels of resistance are found in fluoroquinolones, penicillin beta-lactamase inhibitors combinations, 3rd generation cephalosporins, trimethoprim-sulfamethoxazol, penicillins.

Conclusions: Covid-19 can generate clusters of HAIs. Many MDR and XDR bacteria not only determine HAIs, but also colonize the patients, increasing the risk of reinfection. Early identification of colonization is important for applying transmission preventive measures.

ID697 Relation Between the Enzymatic Activities of LDH and GGT and the MELD Score in Cirrhosis

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Introduction: The study aims to compare different biochemical parameters between viral and ethanol cirrhosis and highlights the importance of lactate dehydrogenase (LDH) and gamma-glutamyltranspeptidase (GGT) in the prognosis of liver cirrhosis. The MELD Score (Model For End-Stage Liver Disease) quantifies the prognosis of end-stage liver disease for transplant planning.

Materials&Methods: Thirty-one patients with toxic-nutritional liver cirrhosis and forty patients with viral cirrhosis (HVC, HVB and HVB +D) from gastroenterology department, Fundeni Clinical Institute, Bucharest, were enrolled. Given its accuracy in predicting short-term survival among patients with cirrhosis, MELD was initially adopted by the United Network for Organ Sharing (UNOS) in 2002 for prioritizing patients awaiting liver transplantation in the United States.

Results: Patients with viral cirrhosis versus toxic-nutritional cirrhosis had higher hemoglobin ($p < 0.01$), hematocrit ($p < 0.01$), cholesterol ($p < 0.03$), ALT ($p < 0.01$), MPV ($p < 0.01$) and lower INR ($p < 0.01$). In the group with viral cirrhosis, the enzyme lactate dehydrogenase (LDH) was significantly higher (445 vs. 306 UI/L, $p < 0.05$) in the patients with a prognostic MELD score higher than 15 compared to patients with a MELD score lower than 15. In the group with ethanol cirrhosis, the gamma-glutamyltranspeptidase (GGT) activity was significantly higher (98 vs. 42 UI/L, $p < 0.05$) in the patients with MELD higher than 15 compared to patients with a prognostic score below 15.

Conclusion: LDH activity and GGT activity can help for risk stratification in End-Stage Liver Disease with viral etiology and ethanol etiology, respectively.

ID704 Assessment of the Burst-Suppression EEG reactivity for detecting post-ischemic brain injury: an experimental study in rats

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Aim: The electroencephalographic (EEG) assessment of the diffuse ischemic brain injury remains methodologically challenging. The aim of this study was to investigate the impairment in EEG reactivity to intermittent photic stimulation (IPS) following experimental global cerebral ischemia. Rather than focusing on continuous EEG measures, we tested the reactivity of the discontinuous burst-suppression (BS) patterns induced in deep anesthetic coma.

Methods: Male Wistar rats were surgically exposed to a mild global cerebral ischemia by electrocauterization of the vertebral arteries and the subsequent clamping of both common carotid arteries for 5 minutes under laser doppler control. A group of rats exposed to sham surgery served as controls. Cortical EEG recordings were carried out at 48 hours after surgery when all rats appeared clinically recovered. The BS patterns, induced by an overdose of chloral hydrate, were quantified by the suppression ratio (SR), measuring the fraction of time spent in suppression, over 1-minute intervals. The IPS was delivered to one eye at 0.5 Hz in 1-minute epochs. The BS reactivity index (BSRI) was defined as the reduction in the ipsilateral SR that occurred during IPS, relative to the baseline SR recorded just prior to IPS.

Results: At a baseline SR of 40%-80%, the mean BSRI was 0.27 in controls. In contrast, the mean BSRI was about 3-fold smaller in the rats exposed to GCI. The amplitude of the visual evoked potentials was similar between the groups.

Conclusions: Our data suggest that measures of burst-suppression EEG reactivity are sensitive to detect the post-ischemic brain injury.

ID705 Biochemistry of seasonal diseases in children

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Introduction. At the emergency room a quick diagnosis is important. The aim of this study was to identify the most frequent pathology at the emergency room in the pediatric population and to underline the biochemical parameters for differentiating bacterial from viral pathology or other complications.

Materials and methods. Two groups of patients hospitalised in 2019, in Bacau Emergency Hospital, between January – February and July-August, formed the winter group (n=282) and the summer group (n=300), respectively.

Results. The most frequent pathology at the emergency room, both in winter and summer, was the respiratory one, being 80% and 60%, respectively. Digestive disorders were 5 times more common in summer than in winter. Most pediatric patients (70-80%) belong to the 0-6 years age group. Within the age groups 7-11 years and 12-18 years, there is a decrease in the incidence of respiratory diseases and an increase in the incidence of digestive and urogenital diseases. In bacterial infections, the number of leukocytes, neutrophils, neutrophil:lymphocyte ratio and C-reactive protein are significantly higher than in viral infections. In viral infections the number of lymphocytes were correlated with the number of leukocytes ($r=0.74$, $p<0.05$), while in bacterial infection CRP was correlated with PMN ($r=0.18$, $p<0.05$). *Transaminases may appear transiently elevated, especially in enterocolitis. Among the frequently implicated etiopathogenic agents is Norovirus.* Dehydration is a frequent manifestation of digestive illnesses and the urea:creatinine ratio is more sensitive in detecting dehydration states. Approximately 25-30% of the studied patients had anemia at admission, of which 70-80% were iron-deficiency anemia.

Conclusion. Differentiation between the viral or bacterial respiratory infection is important to guide antibiotic treatment. Anemia is a possible risk factor in children's respiratory and digestive diseases. Transaminases may appear transiently elevated, especially in enterocolitis.

ID717 GGT as the “node of intersection” between inflammation, dyslipidemia and oxidative stress

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Introduction and objectives. Gamaglutamil transferase GGT records changes in various clinical conditions as cardiovascular diseases, type 2 diabetes mellitus, chronic liver disease and pancreatic cancer. The aim of this study was to focus on GGT activity and find its correlation with inflammatory markers as TNF- α and ICAM-1, with oxidative stress markers as monocyte chemoattractant protein-1 (MCP-1), respiratory burst (RB) and metabolic parameters.

Materials and methods. Type 2 diabetic patients (n=83), with the disease no longer than 6 years, without anticonvulsivant treatment and abstinent to alcohol were enrolled and compared with 35 control subjects. The plasma values for TNF- α , ICAM-1 and MCP-1 were determined by ELISA methods. Respiratory burst (RB) of isolated peripheral blood mononuclear cells (PBMC) was measured by chemiluminescence and the other biological parameters were measured by spectrophotometry.

Results. GGT activity was higher in the diabetic group compared to control (55 versus 31 IU/l, $p<0.05$). In the diabetic group, GGT activity was positively correlated with the atherosclerosis index (total cholesterol/HDLc, $r=0.20$, $p<0.05$), with ICAM-1 ($r=0.50$, $p<0.05$), TNF- α ($r=0.55$, $p<0.05$), MCP-1 ($r=0.57$, $p<0.05$), RB ($r=0.63$, $p<0.05$), uric acid ($r=0.25$, $p<0.05$), fasting glycaemia ($r=0.58$, $p<0.05$), ASAT activity ($r=0.70$, $p<0.05$), and negatively with albuminemia ($r=-0.21$, $p<0.05$).

Conclusion. In type 2 diabetic patients without anticonvulsivant treatment and abstinent to alcohol, high GGT activity can be a red flag and it represents a “node of intersection” between inflammation, dyslipidemia and oxidative stress.

ID719 Ambulatory medicine for prediabetes-a pilot study

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Introduction and objectives: According to the NCEP ATP III definition, metabolic syndrome (prediabetes) is present if three or more of the following five criteria are met: waist circumference over 102 cm in men or 88 cm in women, blood pressure over 130/85 mmHg, fasting triglyceride level over 150 mg/dl, fasting high-density lipoprotein HDLc lower than 40mg/dl in men and 50mg/dl in women. The progression of prediabetes to diabetes can be prevented in 60% of cases. The aim of this study is to find vulnerable aspects in the management of prediabetes in order to improve ambulatory medicine to reduce the cases of type 2 diabetes mellitus.

Materials and methods: In this study 99 patients (49 females and 50 men, aged 45-80years) without chronic liver or renal diseases and also without autoimmune diseases were enrolled, from a family medicine medical office. The selection involved patients with inclusion criteria consisted of: altered fasting glucose value (2 fasting glucose values between 110-126 mg/dL) or glycosylated hemoglobin value between 5.7 and 6.4%. The patients were under control at the family physician at least once in the last year.

Results: Following the evaluation of the blood parameters, it was demonstrated that 97.9% of patients had mixed dyslipidemia (hypercholesterolemia and hypertriglyceridemia) and 24.7% had systemic inflammation (fibrinogen above normal). 96.9 % had high blood pressure, most of them having HBP stage 1. The waist circumference was not measured in any patient and the HDLc values were measured only for 7 patients.

Conclusion: The NCEP ATP III criteria were not applied in this ambulatory medicine office and a rigorous diagnostic and management of prediabetes was not done. Computer Alert Programs should help family physicians to apply standardized criteria in prediabetes. The patients should be more compliant for dyslipidemia and high blood pressure treatment.

ID729 Exploring Sleep Alteration in Epileptic Mice: A Novel Low-Cost Method

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Conducting sleep studies in freely moving animals introduces a variety of technical challenges. Usually, these studies require wireless data collection devices powered by batteries, which are size-limited in small animal models, such as mice. Commercial solutions exist, but their cost can be prohibitive for resource-limited research institutions. Therefore, we developed an economical method for long-term data collection in freely moving small animals, applied to analyze sleep pattern alterations in mice with epilepsy.

We implemented an intrahippocampal kainic acid model in C57Bl/6 mice to induce epilepsy. Simultaneously, we surgically implanted a headstage to capture electrophysiological recordings (n = 5, 3 epileptic vs 2 control). Our system facilitated wired ECoG, EMG (4+1 channels), and video capture for 24 hours. A custom-engineered mechanism tracked mouse movements and adjusted wire rotation, eliminating wire torsion and facilitating free movement.

We developed a Python-based visual interface for concurrent EEG and behavioral analysis. Data were segmented into 30-second epochs, plotting the raw signal and power spectrum, while concurrently playing matching epochs from the video. We manually labeled one recording from each batch and used these classifications to train a machine learning model for sleep analysis.

The system functioned successfully for continuous 24-hour periods under freely moving conditions for each subject. Additionally, plotting the raw ECoG and power spectrum concurrently allowed us to apply the sleep stage classification criteria from the Herrero model. The video data were utilized to more effectively distinguish REM and awake stages, which traditionally have similar ECoG morphology.

While our approach is promising, additional studies are required to evaluate the system's ability to analyze sleep patterns in diverse animal models.

ID761 Probiotics mitigate the effects of prenatal stress on the maternal care and offspring behavioral outcome

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Introduction: The in-utero environment significantly influences offspring health. Adverse pregnancy conditions can affect fetal neurodevelopment and post-birth maternal behavior. Prenatal stress has detrimental effects on maternal and offspring health, including suboptimal gut microbiome composition. This study aims to explore prenatal stress's impact on maternal behavior and offspring neurodevelopment, as well as assess the potential benefits of probiotics.

Materials and methods: Randomly chosen pregnant female Wistar rats underwent daily restraint stress (for 1 week, 3 times/day) or were left undisturbed. They were also assigned to receive a multi-strain probiotic (Vivomixx, 50x10⁹ bacteria/kg/day) or not throughout the pregnancy.

To assess offspring neurodevelopmental reflexes, pups were tested during postnatal days (PND)6-8. Maternal care was assessed by observing the latency and frequency of pup retrieval to the nest on PND6.

After weaning, the anxiety levels were tested in dams by performing the Elevated Plus Maze (EPM) and the Open Field Test (OFT). Additionally, female and male offspring were randomly selected from each litter and starting with PND35, cognitive behaviours were assessed: Morris Water Maze, Y-Maze Spontaneous Alternation, and Novel Object Recognition (NOR). Moreover, an *in vitro* assessment was carried on PND0 by performing primary hippocampal cultures and stressing them with corticosterone/glutamate.

Results: Gestational stress had no significant impact on offspring neurodevelopmental reflexes, but impaired maternal care (p<0.05), which was ameliorated by probiotic treatment.

Dams from the stressed group exhibited a tendency toward anxious behavior, spending less time in the center (OFT) and more time exploring the arms (EPM), which was ameliorated by probiotics.

Female offspring from the stress group exhibited impaired working memory in Y-Maze test (p<0.05), while male offspring exhibited deficits in recognition and non-spatial memory (NOR). These effects were significantly mitigated by the probiotic treatment. Hippocampal cultures from stressed dams express more resilience when exposed to stress conditions (p<0.05), effect reversed by probiotics.

Conclusion: Our study showed that prenatal stress decreased maternal care and impaired cognitive function in offspring, while probiotic treatment ameliorated these effects. These findings suggest that probiotic administration during pregnancy may be an effective and safe strategy for mitigating the negative effects of prenatal stress on maternal care and offspring cognitive and anxiety behaviors, possibly through gut microbiome-related mechanisms.

ID765 The importance of anaerobic conditions and surveillance time in isolating slow-growing bacteria in orthopaedic patient samples

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Objectives: The aim of this study was to ascertain the presence of isolates exhibiting slow growth in patient samples, as well as to underline the importance of keeping cultures under surveillance for more than 24 hours and in both aerobic and anaerobic conditions.

Method: Samples were taken from soft tissue, bone and prosthesis from orthopaedic patients. Samples were cultured and kept under surveillance for more than 24 hours, in both aerobic and anaerobic conditions, in order to detect the presence of slow-growing bacteria and isolates with specific environmental preferences.

Results: This study has successfully determined the presence of anaerobic and facultative aerobic strains such as *Actinomyces* spp. in over 10% of patient samples that would have been considered inconclusive if interpreted within the first 24 hours of being cultured. Furthermore, the presence of these strains could not always be reliably established through cultures in aerobic conditions alone.

Conclusions: Cultures from patient samples require more than 24 hours of surveillance before being declared sterile, as there is a significant risk of failing to identify the underlying pathogen. Furthermore, culturing samples in both aerobic and anaerobic conditions is essential to uncovering bacteria which only thrive in specific environments.

ID779 One Slide, Infinite Insight: Virtual Immunohistochemistry with Deep Learning for CEA Marker in Colon and Pancreatic Cancer

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Objective: This study introduces a screening tool for virtual immunohistochemistry (VIHC) via deep learning, with a focus on the carcinoembryonic antigen (CEA) marker in colon and pancreatic cancer. The primary objectives were to emphasize the significance of VIHC in reducing diagnosis costs and to establish its role as a valuable screening tool for determining the necessity of specific immunohistochemical staining. We present a novel approach that eliminates the use of H&E slides and utilizes hematoxylin-only prediction and DAB for ground truth generation.

Methods: 139 tissue microarray (TMA) cores containing colon and pancreatic cancer samples were acquired using the Aperio LV1 scanner. Our dataset generation employed the Hematoxylin-Eosin-DAB (HED) color deconvolution technique to separate channels from Hematoxylin-DAB slides. A key aspect of our method is the novel correction applied to stain vectors, mitigating bias in regions with DAB positivity. We employed a pre-trained U-Net architecture with PyTorch for deep learning and instrumented OpenSlide for the manipulation of gigabyte-large whole slide images (WSI). Notably, we integrated parallelization techniques, enabling scalability on large-scale computers.

Results: Our deep learning architecture's accuracy exceeded 90% in detecting the CEA marker. The integration of VIHC significantly reduced diagnosis costs and complemented traditional lab work, making it a valuable and accessible tool in diagnostic laboratory settings. The elimination of H&E slides, alongside our stain vector adjustments, enabled exclusive utilization of H&DAB slides without compromising accuracy.

Conclusions: In conclusion, our study showcases a novel VIHC approach via deep learning for CEA marker detection in colon and pancreatic cancer using TMAs extracted from WSIs. Our approach is readily adaptable to incorporate vast amounts of data and has the potential to transform diagnostic practices, ensuring more accurate and affordable cancer diagnosis and phenotyping.

ID781 Transient Receptor Potential Ankyrin type 1 (TRPA1) channel is activated by the antimalarial artemisinin

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Objectives: Antimalarial drugs like artemisinin and its derivatives are highly effective against *Plasmodium* protists. However, their molecular mechanism of action is not completely understood. Studies have shown that the administration of artemisinins has additional biological actions, such as anti-cancer or antinociceptive effects.

The aim of this study was to find new molecular targets for artemisinin. For this purpose, our primary objective was to investigate the effect of artemisinin on certain Transient Receptor Potential (TRP) ion channels which are known for their involvement in pain sensing.

Methods: Calcium microfluorimetry and the patch clamp technique combined with pharmacological tools were used for testing the potential of artemisinin to activate wild type or mutant TRP channels, either heterologously expressed in HEK293t cells or natively expressed in mouse dorsal root ganglion (DRG) neurons.

Results: Acute exposure to artemisinin induced calcium transients in HEK293t cells transfected with human TRPA1. The effect was concentration dependent and was abolished by the selective TRPA1 antagonist A967079. Moreover, using the same heterologous system, artemisinin-induced inwardly-rectifying whole cell currents were recorded which were again inhibited by co-application of A967079.

In addition, we compared the responses of HEK293t cells expressing wild type human TRPA1 to those expressing two human TRPA1 mutants: C621S/C641S/C665S (insensitive to electrophilic agonists) and S873V/T874L (insensitive to non-electrophilic agonists), respectively. The analysis of the calcium transients induced by artemisinin and two TRPA1 agonists, carvacrol (non-electrophilic) and allyl isothiocyanate (electrophilic) showed that artemisinin and carvacrol activate TRPA1 channel in a similar manner.

Finally, calcium signals evoked by artemisinin were also detected in a subpopulation of cultured mouse DRG neurons which were also activated carvacrol and inhibited by A967079.

Conclusion: Artemisinin is a selective non-electrophilic agonist of the polymodal receptor channel TRPA1, a key signalling molecule in may cancer and pain pathways.

ID788 Innovating undergraduate teaching through peer-assisted skills training

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Objective: Annually, the number of admitted students is increasing, making practical skills training more difficult. Therefore, a peer-assisted skills training was implemented in order to complement the curriculum. We aim to determine the impact of peer-assisted training among first year medical students in performing basic clinical techniques and basic life support.

Materials and Methods: This cross-sectional study was conducted at the Medical Simulation Department, between October 2022 and April 2023. Following the four-hours student-led training, a 5-point Likert scale self-assessment questionnaire was filled in by participants from all faculties (Medicine, Dentistry, Pharmacy, Nursing). The participants had to self-assess their perceived level of knowledge and skill, pre- and post-training, regarding a series of clinical skills (rectal exam, gynecological exam, nasogastric intubation, urinary catheterization, blood sampling) and first aid (victim assessment, lateral safety position, resuscitation, use of AED, Heimlich maneuver). Out of the 1190 participants, we analyzed the results of first year medicine undergraduate students (n=1097). For the statistical analysis of the collected data Microsoft Excel Spreadsheet Software was used.

Results: 98.9% of the selected participants responded to both pre- and post-training assessment. Confidence ratings increased significantly after the workshop for each of the taught skill (before: average 1.71 +/- 0.69; after: 4.38 +/- 0.75). A higher impact was observed in the basic clinical skills stations assessment, over 80% of participants self-evaluating with 1 on the Likert-scale prior the training and with 4 or 5 after the workshop. Although, the knowledge assessment of first aid skills showed more inhomogeneous results prior the training (average 2.05 +/- 1.25), the overall impact was a positive one post-training (average 4.42 +/- 0.87).

Conclusions: Our study highlights the positive impact of a student-led skills training program which could be considered a feasible education model since it is cost and time-efficient for undergraduate medical training, improving the skills of both tutor and tutee students.

ID626 Peculiarities of TB epidemic during the COVID-19 pandemic

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Aims: To identify the peculiarities of TB infection in patients treated in the 4-th district TB unit Bucharest in similar, pre-pandemic and intra-pandemic periods.

Method: Retrospective, descriptive study in which we analyzed data about the patients treated between March2019 and March2021. We divided these patients in 2 groups: precovid group (patients registered between March2019 and March2020) and covid group (patients registered between March2020 and March2021).

Results: The number of TB cases registered in April-August2020 was lower compared to the same period in 2019. An increase followed in August2020, another peak was in October2020 and in November2020-February2021 was a decrease of the number of cases compared to the same period in 2019-2020. The higher percentage of men and patients from the urban environment can be found in both groups. The average age was 47.63 years in the precovid group and 43.86 years in the covid group. The majority of patients were new cases both in the pre-pandemic and in the studied pandemic year, but in the latter appeared retreatments from abandonment (6.20%). In the covid group the percentage of bilateral tb cases was higher than precovid group (40.8%/34.67%) and the cavitary cases were in a higher percentage in the covid group compared to precovid group (36%/32%). The success rate was smaller in the covid group (79.31%) compared to the precovid group (82.04%). Abandonments (3.45%/2.80%) and lost in follow up (4.14%/1.12%) were more numerous in the pandemic.

Conclusion:

1. The number of TB cases registered in the Bucharest, 4-th district TB unit in the first year of the pandemic it followed the restrictions imposed by the health measures.

2. Regarding the severity of pulmonary TB cases, we noticed that in the covid group there were more severe cases compared to the precovid group.

3. Lower success rate and higher percentage of abandonments and lost in follow up in the covid group can be explained by the difficulty of monitoring patients and their treatment in lock down conditions (restricting the movement, self-administered tuberculosis treatment, etc.)

ID 627 A moment of death: when the heart stops beating for 30 seconds

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Objectives: Our aim is to highlight the usefulness and sensitivity of the tilt-table test in reproducing syncope episodes.

Prolonged asystole during this test is rarely seen in patients with neurally mediated syncope. There is limited data in the literature regarding this topic.

Methods: We would like to bring to your attention the case of a 60 year old caucasian male who was admitted to our clinic with four episodes of loss of consciousness in the past six months, occurring after prolonged periods of orthostasis. We decided to perform the tilt-table test, with a pharmacological provocation test with sublingual nitroglycerin spray 0.4 mg, two puffs within 20 minutes of starting the test. Two minutes later, syncope was reproduced: blood pressure became undetectable, and asystole was recorded on the electrocardiogram. After a few seconds of loss of consciousness, the patient presented myoclonic jerks in the upper limbs with preserved sphincter control. The tilt-table test was immediately interrupted and after a 30-second asystole, the patient regained consciousness, with restoration of a normal sinus rhythm and effective blood pressure.

Results: The observations obtained during the tilt-table test supported the clinical diagnosis of severe vasovagal syncope with a mixed vasodepressor and cardioinhibitory mechanism, characterized by a malignant degree of reflex asystole. Therefore, a permanent dual-chamber DDD cardiac pacemaker was implanted and treatment with an alpha-agonist, midodrine 5 mg (twice daily) was initiated.

Conclusions: To date, there are few reported cases of prolonged asystole during the tilt-table test in the medical literature. Therefore, our case illustrates several specific aspects of vasovagal syncope, including the use of the tilt-table test as a diagnostic tool, the prolonged duration of the cardioinhibitory effect (30 seconds), and the malignant nature of the syncope.

ID631 Knowledge and attitudes of medical assistants regarding the chronic carriage of MRSA

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Introduction: Infections caused by methicillin resistant *Staphylococcus aureus*, MRSA, strains represent a significant challenge to the health care system because of the high frequency among human infections, especially in nosocomial infections, and their potential to evolve into severe forms. In Romania, more than 50% of *Staphylococcus aureus* strains isolated from blood cultures are methicillin-resistant (53.8% according to the EARS-Net report for 2012), and they have been increasing in recent years.

Objectives: Faced with this situation and in the absence of a national guideline on MRSA infections, the present study aims to identify the level of knowledge of students who are going to work in the medical field and of nurses who are already working.

Material and methods: The study on the knowledge and attitudes of medical assistants regarding chronic carriage of MRSA is a descriptive study carried out on a group of 85 respondents. The evaluation method is a questionnaire comprising a total of 40 questions with pre-formulated answers.

Results: The highest percentage of respondents is found in the age group of 22 years (15 respondents out of 85 with a percentage of 17.9%), respectively 23 (15 respondents out of 85 with a percentage of 17.9%).

Although 84% consider frequent hand washing as the best prevention method, as well as avoiding crowded spaces, disinfecting commonly used objects, or covering open wounds, 12% of respondents do not know how MRSA infection can be prevented.

54 out of 85 (63.5%) know that MRSA is transmitted by touch or direct contact and 22 out of 85 responders (25.9%) know that it is transmitted by sneezing or coughing, 8.2% (7 out of 85) of the respondents believe that MRSA can be transmitted through blood or sexual contact.

97% of the survey respondents are aware that MRSA infection is dangerous, can be fatal and is mainly prone to people with prolonged hospital stays, and only 3% answered that it is a common infection.

Conclusion: By understanding the causes, mode of transmission and treatment options for methicillin-resistant *Staphylococcus aureus*, we can prevent and control the spread of this bacterium and improve the management of associated infections.

ID632 Knowledge, attitudes and practices regarding hpv infection prophylaxis among young men

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Introduction: In Romania, HPV infection is mostly associated with the female gender, although the infection affects both female and male sex equally, being equally serious for both genders.

Objectives: The following study seeks to identify the level of knowledge of young males under 25 years of age regarding protection against human papilloma-virus.

Material and methods: The study was conducted on a group of 100 male persons under the age of 25. The method for assessing knowledge and opinions about HPV is represented by a questionnaire comprising a total of 22 questions with pre-formulated answers. There are yes/no/don't know simple answer questions but also simple answer questions - with a certain correct answer and multiple answer - where there are 2, 3 or 4 correct answers.

Results: 85% of respondents know that HPV infection can affect men and a high percentage, 84%, recognized the main method of HPV transmission (namely unprotected sexual contact). Of the 100 participants, only 65% chose the vaccine as the main method of prevention against HPV infection, which leads to the use of less effective methods of prevention, as it appears from the analysis of the questionnaire, 81% believe that the condom is the most effective in preventing infection. Although most study participants have heard about the HPV vaccine, a small number of them are vaccinated, only 5%. Unfortunately, no increased percentage was observed in terms of the desire to be vaccinated either, only 28%.

Conclusion: Although, young males have knowledge about HPV infection and the main mode of transmission, there is a great reluctance regarding their desire to be vaccinated.

ID634 The level of knowledge of the population in Romania about *treponema pallidum* infection

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Introduction: From an epidemiological point of view, syphilis was the main sexually transmitted disease that humanity faced in the 16th century, and for modern medicine, it still represents one of the most important problems at the global level.

Objectives: The purpose of this paper is to observe the level of knowledge of the Romanian population about *Treponema pallidum* infection. To have data as close as possible to the general statistics of the population, I chose to have people with different professions participate in the study.

Material and methods: The study was conducted on a group of 95 people of varying ages and different professions. The method for assessing knowledge and opinions about syphilis is represented by a questionnaire addressed to the general population. The questionnaire includes a total of 22 questions with pre-formulated answers. There are yes/no/don't know simple answer questions but also simple answer questions - with a certain correct answer and multiple answer - where there are 2, 3 or 4 correct answers.

Results: 27% (26 respondents) have completed university studies, 75%, respectively 71 respondents are unmarried, 68% (65 respondents) fall into the age category of 20-30 years. In Romania the highest number of cases of *Treponema pallidum* infection is registered in the age groups of 20-24 years, according to the specifications of the CNSCBT. 94.7% (90) of respondents know that syphilis is transmitted through sexual contact with an infected person, 74.7% (71) of respondents know that syphilis is transmitted transplacentally from mother to fetus, 67.4% (64) know that there is a very high risk of infection with *Treponema pallidum* through blood transfusions, if the donor has the disease called syphilis, and 43.2% (41) know that the disease is also transmitted through syphilitic roseolae, contagious skin lesions. Almost half of the respondents (44.2%) know that the untreated disease can cause sexual dysfunction. 67 of the respondents believe that periodic screening is necessary when there are several sexual partners, 73.7% (70) of the respondents know that there are risks for the product of conception if the mother has contacted the *Treponema pallidum* bacteria and will not follow an antibiotic treatment.

Conclusion: Although the level of knowledge of the Romanian population is increased, Romania is still one of the countries with the highest incidence of syphilis among the countries of the European Union.

ID635 Attitudes and perceptions of pregnant women in Romania regarding behavior at birth

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Introduction: Healthy mothers and healthy newborn babies are the foundation for a strong future in the world. Even if maternal and infant mortality would decrease, the burden of mortality and morbidity from the perinatal period - pregnancy, birth and disability - should remain a major concern, because, from the large number of births per year (over 5 million in Europe), the most affected by adverse perinatal events and the long-term consequences of disabling pregnancy complications, is the young population.

Objectives: The purpose of this research is to obtain an overview of reproductive health, as well as the perceptions, attitudes and experiences of pregnant women regarding childbirth and to highlight the causes that led to the increase in the number of medical births.

Material and methods: To carry out the study, a questionnaire was used that was distributed online in the groups of pregnant women, between April the 1st and July the 1st 2023. 244 responses were obtained. The questionnaire includes 3 parts: a part that outlines the socio-demographic profile of the respondents, a part that includes questions about prenatal follow-up and a part that includes perceptions and attitudes of pregnant women regarding childbirth.

Results: 50% of respondents are between 30-39 years old, and 76% have higher education.

49.3% are on their first pregnancy, and 67.1% of the respondents stated that they go to a gynecologist in the private system for prenatal care. 40.4% say that they did not talk to the doctor about the birth, 68.5% say that they did not talk to the doctor during prenatal care about the importance of the early contact of the mother with the newborn, and 69.9% say that they did not discuss with a doctor about breastfeeding and its benefits.

Only 19.67% of respondents agree that scheduled cesarean section increases the risk of fetal prematurity and 51.22% of respondents agree that adequate information and education of pregnant women regarding cesarean section could lead to more conscious and informed choices, and 59.42% agree that Medical Interventions (such as induced labor, episiotomy, caesarean section) during childbirth are overused and should be avoided if possible.

Conclusion: Promoting a model of pre-, intra-, and post-natal care that integrates the midwife in the maternal-child care team, could contribute to improving access to medical assistance in a timely manner, reducing the tendency towards medicalization and enriching the experience of giving birth, generating a positive impact on maternal morbidity and mortality in Romania.

ID636 The role of the midwife in the management of pregnancy

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Public health is important to us all, and maternity services are uniquely placed to influence current and future maternal and child health, and midwives play a critical role.

The purpose of the study is to explore the role of the midwife in the context of public health through the lens of midwifery education, responsibilities, rights and her place in the health care system in Romania.

The objectives of the study are: 1) To describe the current model of pre-, intra- and post-natal care in a county hospital (Ploiesti Hospital); 2) To describe the socio-demographic characteristics of women who need adequate care during the pre-, intra- and post-natal period (6 weeks); 3) To analyze factors that determine or influence the health status of women of childbearing age (15-49 years) that can be modified through the specific intervention of the midwife with elaboration of recommendations

Methodology: material and method The method used was an interview based on two questionnaires composed of closed questions, except for the questions related to name, surname and age. The questionnaires were administered by the same investigator in a face-to-face interview and completed with data collected from the observation sheets regarding the obstetrical profile of the pregnant woman (pregnant women at risk, group B), data on birth, pregnancy. They were applied to two groups of 100 pregnant women who gave birth at the Ploiesti Obstetrics and Gynecology Hospital.

Results: Women of childbearing age, but also minors, who gave birth between April 2020 (group B minors) and March 2021 (group A) responded 100% to questionnaires. The majority come from rural areas, with a level of education that registered in group A only 6% university level. The knowledge but also the behavioral level regarding the health of the unborn child was limited: smoking (27% of group A), alcohol consumption (11%), the administration of folic acid recommended by the obstetrician (12%). All these could have been improved by midwife intervention during pregnancy. At the time of birth and in labor, the woman benefits from the assistance of the midwife (88% report). Pregnant minors come from extended families and 41% are on social assistance.

Conclusions: Although, in Romania, the training of midwives is modern, in accordance with European norms, their visibility and accessibility is almost impossible for Romanian women and, implicitly, women's options are classically directed towards the family doctor, the obstetrician and the interventional technical approach. Pregnancy and childbirth are characterized by various levels of knowledge, attitudes, behaviors among women of childbearing age. The pregnant teenager is a vulnerable population group. The midwife can be involved both in recommendations

regarding the promotion of healthy behavior in pregnant women, as well as in education regarding the reduction of the number of pregnancies in minors, in increasing access to sexual health and family planning services, but especially in improving the health and mental well-being of older women fertile.

ID637 The relationship between spasticity severity and dysfunctionality of the upper limbs in traumatic and vascular encephalic lesions

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Objectives: Cranial lesions are more and more frequent conditions for diverse populations, having a negative impact on patients' personal life. Physiopathological consequences of these lesions are strongly affecting one's independence in a negative way, especially when dysfunctionality is amplified by the presence of spasticity. We studied the relationship between spasticity and the state of functional well-being in patients with neurological deficits of encephalic origins.

Method: We studied 15 patients hospitalized in the NeuroMuscular Rehabilitation Department of Teaching Emergency Hospital "Bagdasar Arseni". They were tested using the scales ARAT, QoL, Ashworth, Penn and MRC.

Results: 6 females (40%) and 9 males (60%) were studied, having ages of 21 to 81 years. The patients were hospitalized for rehabilitation following the conditions: hemiplegia (3 females and 6 males), paraplegia (1 female) and tetraplegia (2 females and 3 males). The maximum number of physical therapy days of treatment was 37. The maximum score for the quality-of-life scale grew during hospitalization: started from an average of 76 and raised to 80, with a standard deviation of 10,8 (for males) and from 75 to 77, with a standard deviation of 17,6 (females). Spasticity remained at the same degree from admission to the hospital to patients' discharge, as well as the frequency of muscular spasms. ARAT results values for all patients varied between 0-18 for grasp and pinch movements, from 0 to 12 for grip movement and between 0-9 for gross movements.

Conclusions: The relationship between the quality-of-life yield and the physical therapy yield is of direct proportionality (Pearson=0,33), statistically significant (F test<0,005). The relationship between the quality-of-life yield and the capacity of making global movements is of direct proportionality (Pearson=0,12), statistically significant (F test=0,002), showing the importance of elementary gestures for the studied patients.

ID643 Partial responder characteristics from a web-based validation of educational materials for acne patients and of the Romanian cultural adaptation of the Cardiff Acne Disability Index (CADI)

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Objectives: Quality of life assessment and patient education are important aspects in acne management. The objective of this research was to evaluate the incomplete answers from subjects who participated in a study aiming to validate the Romanian cultural adaptation of the Cardiff Acne Disability Index, as well as of an educational material for acne patients.

Method: After favorable ethical approval was obtained, we conducted a web-based survey, focusing on 3rd to 5th year medical students, using the Qualtrics platform.

Answers were anonymous and the survey tool allowed incomplete responders to return and continue from where they paused, to finalize the survey.

Results: In total 152 students chose to participate in our validation study. The web-based survey allowed the analysis of the 57(37.5%) incomplete answers. The mean progress was 28.39(+/- 27.24) percent of survey length, 18(31.6%) participants dropped out at less than 5% of survey length. All participants lived in the urban setting, there were 32 females (82.1%) and 7 males (17.9%) aged between 20-27 years old (22.79, +/- 1.50), 20(51.3%) participants stated having acne, 19 (48.7%) denied. There were 12(30.8%) respondents in the 3rd year of study, 12(30.8%) in the 4th, and 15(38.4%) in the 5th.

Conclusions: Acne is a common condition. The people included in our study are likely to have dealt with it. Over one third of the people who gave their consent to participate in this survey did not finalize its completion. Among the partial responders there was a similar distribution of people affected or not by acne. Participant's reluctance towards the participation in this survey is probably explained by factors not assessed in our study. Nevertheless, considering the growing amount of online acne-related content, educating patients may help them better assess reference relevance and assist them in filtering inaccurate content. Our data shows that the way in which education is effectively delivered might not be as straightforward as expected.

ID646 Prediction models for heart failure with reduced ejection fraction, using three-dimensional echocardiography

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Background. In patients with heart failure and reduced ejection fraction (HFrEF), LV and RV size and function by 2-dimensional echocardiography (2DE) were identified as predictors for increased mortality. However, parameters measured by 2DE are prone to errors due to increased variability and geometric assumptions. 3-dimensional echocardiography (3DE) is a more accurate and reproducible method, but its prognostic value in HF remains to be defined. **Purpose.** To assess the prognostic value of echocardiographic parameters of the left and right heart, using 3DE, when compared to 2DE. **Methods.** 135 consecutive patients (61±16 years, 88 males), hospitalized for decompensated HFrEF, were assessed by 2DE and 3DE. We calculated the left ventricular ejection fraction (LVEF) by both methods, as well as right ventricular ejection fraction by 3DE (RVEF) and RV fractional area change (RVFAC) by 2DE. Patients were followed for 5 years after the index event. Primary endpoint was mortality, and the secondary endpoint was a composite (CE) of death and hospitalization for HF (HHF). **Results.** During follow-up, we recorded 52 deaths and 70 CE. When comparing non-survivors to survivors, there was a significant difference for the 3DE assessment of LV and RV function between the two groups. For the 2DE assessment, only the RVFAC showed significant difference between the two groups.

Two hierarchical multivariate models were designed separately for the 2DE and 3DE parameters, respectively. The 2DE model included age, LVEF by 2DE and RVFAC, while the 3DE model included age, LVEF by 3DE and RVEF. The 3DE model successfully predicted mortality (χ^2 15, p 0.04), while the 2DE model did not. None of the models were successful in predicting the CE.

Conclusion. 3D parameters of the left and right heart might have a superior value in the prognostic assessment of patients with HFrEF, when compared to the current standard of 2DE.

ID650 Torrential tricuspid regurgitation with cardiogenic shock after electrical cardioversion

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From our knowledge, we are the first to report a case of torrential acute tricuspid regurgitation (TR) with cardiogenic shock following electrical cardioversion of atrial flutter, probably as a result of right atrial (RA) stunning.

A 45-year-old man presented for fatigue and high-rate palpitations. Clinical examination was unremarkable, except for a heart rate of 160 beats per minute.

Electrocardiography: common atrial flutter with a 2:1 conduction.

Transthoracic echocardiography (TTE): LVEF of 15%, moderate-to-severe mitral regurgitation (MR), systolic dysfunction of the right ventricle (RV): RV FAC of 26%, TAPSE of 13 mm. He also had mild-to-moderate TR (VC of 3 mm), dilated TA (42 mm), dilated RA (50 mm), and a tenting height of the tricuspid leaflets of 9 mm. The RA contraction strain was -3,9%.

The diagnosis was tachycardia-induced cardiomyopathy. Patient underwent external electrical cardioversion.

One hour later, patient developed cardiogenic shock. TTE: stationary LV and RV systolic dysfunctions, stationary MR, but torrential TR (VC of 10 mm). A decrease in TAPSE (11 mm) and tenting height (7 mm), an increase in RA diameter (56 mm) and TA diameter (49 mm), and a RA contraction strain of -1.8% were noted. Acute pulmonary embolism was ruled out.

24-hours later, after the restoration of hemodynamic stability, TTE revealed improved LVEF (25%), TAPSE (18 mm) and RVFAC, reduction of the TA diameter (38 mm), an increase of the tenting height (9 mm), a reduction in the RA diameter (48 mm), and improved RA contraction strain (-4.8%). Severity of MR remained unchanged; TR decreased to moderate.

TR observed after cardioversion had an "atriogenic" mechanism. RA stunning caused dilation of RA and TA, and a supplementary loss of the TA contraction, leading to severe TR.

Our case highlights a severe complication in a commonly performed procedure, and emphasizes the need to identify patients at risk.

ID654 Epidemiological characteristics and prevention strategies of HPV related diseases in South-Eastern European countries in 2023

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Objective: HPV related diseases, especially cervical cancer, continue to represent an important public health issue in South-Eastern European countries. In the context of the availability of HPV vaccines and performant screening methods, the World Health Organization launched in 2020 the first global effort to accelerate the elimination of this cancer.

Our objective is to present the epidemiological characteristics of HPV related diseases in South-Eastern European countries in 2023.

Methods: A descriptive comparative study was performed using HPV data available on various official websites. The countries included in the study were Romania, Bosnia and Herzegovina, Bulgaria, Cyprus, Croatia, Greece, Macedonia, Montenegro, Republic of Moldova, Serbia, Slovenia, and Turkey.

Results: Cervical cancer mortality ranks 1st from all cancers among women aged 15 to 44 years in Republic of Moldova and Montenegro, 2nd in Romania and Bulgaria and 3rd in Bosnia and Herzegovina, Cyprus, Greece, and Serbia. The highest age-standardized incidence rate of cervical cancer and the highest age-standardized mortality rate were recorded in Montenegro (26.2/100,000; 10.5/100,000), followed by Romania (5.6/100,000; 9.6/100,000).

High age-standardized incidence rates of laryngeal cancer among men were recorded in Romania (19.8/100,000) and Republic of Moldova (16.8/100,000).

The situation of Croatia and Serbia which ensure HPV vaccine for free for both girls and boys and of Montenegro which started the HPV vaccination of girls in 2022 with only one dose are particular. In Turkey, the HPV vaccine is not included in the vaccination program, but the detection of HPV infections in girls through HPV genome detection is performed for more than one decade.

Conclusions: The morbidity and mortality rates due to cervical cancer are high in most countries included in the study. The health policies against HPV implemented by countries were influenced by the economic level and the socio-cultural determinants. Increasing efforts are required in order to achieve the 90-70-90 WHO goal.

ID655 Limits and challenges of the rehabilitation program in a post-polytrauma patient with algo-functional sequels

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Aims: Annually, in Romania, there are approximately 9000 road accidents resulting in multiple fractures. Post-accident, most of the patients don't benefit from an individual rehabilitation program. The purpose of this case presentation is to highlight the importance of a particular rehabilitation treatment which has the following key objectives: alleviating pain, enhancing gait function, improving overall quality of life, as well as preventing the potential onset of various complications.

Case presentation: A 53-years-old female, known for post-trauma sequels occurred after a car accident in april 2018, resulting in multiple comminuted fractures including both lower limbs and right upper limb, surgically treated and complicated with necrosis areas for which grafting was performed, presented to PMR for severe walking disability, high intensity bilateral calf pain and paresthesia. The local examination revealed: important deformities of the knee resulting in valgus knee on the right (40°) and varus knee on the left (25°), the ROM measurements on admission have shown 90° left knee flexion (105° at discharge), 70° right knee flexion (85° at discharge), -15° right knee extension (-5° at discharge), -5° left knee extension (0° at discharge), 10° right calf inversion, pseudarthrosis of the tibia, post-surgery atrophic scars and hypoesthesia with non-specific route in the calves. The Barthel Index was 60 which indicated severe dependency.

Results: During admission, the patient followed a specific rehabilitation program which included physiotherapy and kinetic-therapy. Afterwards, the clinical evolution was stationary in terms of functional independence, but the pain subsided, sensitivity disorders have been improved, there was also a slight improvement in muscle strength as well as in the knee ROM.

Conclusion: A young patient, without any comorbidities, with severe gait disability, which despite the static deformities is still able to walk on short distances, expresses a desire to circumvent the impending necessity of amputation.

ID663 The epidemiological characteristics of botulism in Romania, 2000-2020

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Objectives: We aim to describe the main epidemiological characteristics of botulism cases confirmed in Romania over a period of 21 years (2000-2020).

Materials: We have performed a retrospective study using the surveillance data, publicly available, reported to the National Institute of Public Health from 2000 to 2020.

Data were centralized into an Excel database and a descriptive analyze was performed.

Results: During the studied period, 465 cases of botulism were confirmed in Romania, with an average of 22 cases/year. The highest number of cases was reported in 2007 (n=38/ 8%). Most cases were reported in the northern and northwestern regions of the country, Bihor county reporting the highest number of cases (n=80/17%). Approximately half (n=276/ 59%) of the patients had acquired the infection in rural areas.

Nearly half of the cases (n=187/40%) were reported among young adults, aged 25 to 44 years old. No cases of botulism were registered in infants under one year of age.

The epidemiological investigation showed that most cases (n=145/161, 90%) were transmitted through foods prepared in the household. The main type of food incriminated were meat products (n=144/193, 75%).

17 deaths were registered during the analyzed period, with a male-to female ratio of 2.4:1. The case fatality rate (CFR) was 3.7%.

Conclusion: Botulism is a priority disease for the surveillance system in Romania, with cases reported every year. Most cases were transmitted through food prepared in households, which shows the need for information and education campaigns of the population.

ID650 Torrential tricuspid regurgitation with cardiogenic shock after electrical cardioversion

Adriana Andreescu¹, Sorina Mihaila Baldea¹, Iulia Mateescu¹, Berenice Suran¹, Dragos Vinereanu¹

¹Emergency University Hospital Bucharest

From our knowledge, we are the first to report a case of torrential acute tricuspid regurgitation (TR) with cardiogenic shock following electrical cardioversion of atrial flutter, probably as a result of right atrial (RA) stunning.

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One hour later, patient developed cardiogenic shock. TTE: stationary LV and RV systolic dysfunctions, stationary MR, but torrential TR (VC of 10 mm). A decrease in TAPSE (11 mm) and tenting height (7 mm), an increase in RA diameter (56 mm) and TA diameter (49 mm), and a RA contraction strain of -1.8% were noted. Acute pulmonary embolism was ruled out.

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Our case highlights a severe complication in a commonly performed procedure, and emphasizes the need to identify patients at risk.

ID666 Knowledge, attitudes, practices of pregnant women regarding toxoplasma gondii infection

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Introduction: Toxoplasmosis is systemic zoonosis. *Toxoplasma Gondii* infection can be passed from mother to fetus and can cause serious complications, including miscarriage, premature birth, birth defects, and neurological and eye problems in the newborn.

Purpose: The aim of this paper is to observe the level of knowledge of pregnant women and their perception about *Toxoplasma Gondii* infection.

Material and method: The study was conducted on a group of 153 pregnant women.

The method for evaluating knowledge and opinions about *Toxoplasma Gondii* is represented by a questionnaire addressed to pregnant women.

The questionnaire includes two sections: a general data section with 18 questions and a section on knowledge about toxoplasmosis with 26 questions, with pre-formulated answers. There are yes/no/don't know simple answer questions but also simple answer questions - with a certain correct answer and multiple answer - where there are 2, 3 or 4 correct answers.

Results: 19.6% of responders stated that toxoplasmosis is not a serious disease, while 53.7% believed that it cannot be transmitted from one person to another. Most pregnant women, respectively 87.5% of all those surveyed, believed that the main way of transmitting the disease is contact with an infected cat, and 10.1% do not know the way of transmission. A percentage of 81% of the responders were tested for *Toxoplasma Gondii* infection. Almost half of the respondents with a percentage of 49.4% do not know how widespread toxoplasmosis is in Romania at the moment, which highlights a lack of information campaigns regarding the importance of this disease.

Conclusions: Awareness and education of pregnant women about the risks and preventive measures of toxoplasmosis are essential to reduce exposure to the parasite and protect their health and that of the fetus.

ID676 Generalized granuloma annulare: rare occurrence of a recalcitrant condition

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Introduction: Generalized granuloma annulare (GGA) is a relatively uncommon skin condition, distinguished by the development of elevated, circular or ring-shaped lesions on the surface of the skin. As an extended form of the typical localized granuloma annulare, it tends to affect various areas of the body, with a preference for the extremities and trunk.

Case presentation: We report a case of a 63-year-old female presenting with asymptomatic, erythematous annular and arciform plaques located on her trunk, upper and lower limbs for about 6 months. Histopathological examination revealed granulomas characterized by histiocytes arranged in a palisading pattern around areas of necrobiotic collagen with mucin deposition. The patient is also known with coronary bypass and vasculitis in the antecedents. Various treatments are cited in the literature in this field, however guidelines are missing, due to the scarcity of GGA cases reported; among these, cryotherapy, PUVA, pulsed dye laser and fractional photothermolysis are anecdotally cited. In the case we are presenting, following a paradoxically unsuccessful cryotherapy session with liquid nitrogen, the patient was started on treatment with hydroxychloroquine and topical calcineurin inhibitors, resulting in mild improvement of the lesions.

Conclusion: GGA is a rare skin disease with a chronic course and a challenging treatment.

ID682 Challenges in the geriatric rehabilitation of frail elderly population with bilateral humerus fracture

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Objectives: The third most common occurred type of osteoporotic fractures are those of the proximal humerus, affecting all age groups. The aim of this case presentation is to highlight the importance of geriatric rehabilitation and complex assessment as interventions in reducing disability while improving quality of life in elderly people with an upper limb fracture.

Method: The 69-year-old patient without relevant previous medical history is transferred from the Orthopedic Clinic with pain and *bilateral* functional impotence of the upper limbs. **History:** Displaced surgical neck fracture – right humerus and distal 1/3 fracture – left humerus caused by a road crash. **Surgical intervention:** Left humeral fracture reduced and fixed with plates and screws after rutier accident.

Results: *Clinical examination:* bilateral quadriceps hypotonia; left upper limb radial nerve innervation hypoesthesia; rhythmic heart sounds, FAo systolic murmur with radiation on carotids and FMi systolic murmur; TAs = 148/80mmHg, AV = 100bpm. At admission *Biological:* Hgb = 11.3 mg/dl, Ferritin=180mg/dl, 25-OH-vitamin D=7.2mg/dl, K=2.9 mmol/l, Troponin T=12pg/dl, D-Dimers=3µg/mL (increased throughout hospitalization), *24-hours BP monitoring:* with values >140mmHg. *Echocord:* mild HVS, moderate Ao stenosis. One episode of paroxysmal FiA with fast AV chemically converted. *Cognitive profile:* MMSE = 27p/30p, GDS = 5p/15p, *Functional capacity:* ADL=1.5/6 and IADL=3/8. *Diagnosis:* Syndrome of Immobilization, Dependence and Frailty.

Conclusions: The under-evaluated elderly patient, lacking periodic screening tests, has an increased risk of falling, total dependence, infections and increased CV mortality. The treatment consists not only in surgical intervention, but also in postoperative functional care, which is a challenge for the entire multidisciplinary geriatric rehabilitation team (nurse, physiotherapist, psychologist, doctor and social assistant).

ID 684 The stroke – a disabling condition of the 21st century

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Introduction: Stroke is the second global cause of death in industrialized countries and also the main disabling condition. It can lead to true life-threatening emergencies and requires prompt and careful intervention to prevent irreversible neurological deficits from setting in.

Objectives: The main objective of the recognition of vascular accidents in the prehospital is represented by the prompt preparation, in due time, of the conditions necessary to carry out the recanalization therapy of arterial obstruction according to the existing guidelines for the decrease of morbidity and mortality.

Methods: For the correct and complete evaluation in order to establish a relevant diagnosis and institute the appropriate treatment in a timely manner, when presenting the patient with suspected stroke in the emergency room, he should be examined to verify the clinical eligibility criteria for thrombolysis and thrombectomy in the absence of contraindications. Likewise, an EKG is performed and laboratory analyzes are collected both with the priority regime and other analyzes that do not constitute eligibility criteria and whose result is not expected for the initiation of fibrinolysis. Afterwards, the patient will perform, as a priority, brain CT and the thrombolysis or thrombectomy protocol will be initiated.

Results: Accurate and timely recognition of stroke has resulted in decreased time between the patient's arrival in the emergency department and recanalization therapy, which provides a better long-term patient prognosis, reduced morbidity and mortality, and disabling complications. In addition, the retrospective centralization of the data of patients presented in the ER of the Bucharest University Emergency Hospital allowed the outline of a current profile, adapted to the year 2023, of the patient with stroke.

Conclusions: Stroke represents a medical emergency in which prompt therapeutic intervention, within the window of opportunity, provides the greatest benefit to the patient in terms of morbidity, mortality, and residual deficits.

ID685 Erythema multiforme-atypical distribution and course

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Objectives: Erythema multiforme is a self-limited immune-mediated disease, with acute onset of characteristic "target" lesions. The mucosal involvement and the associated systemic symptomatology differentiate the major type from the minor erythema multiforme. The typical lesions exhibit 3 different components and measure less than 3 cm, while the atypical findings consist only of 2 zones. In most cases, erythema multiforme is caused by infections, followed by medications, malignancies, or auto-immune diseases. The topography of erythema multiforme consists of lesions being located on the face and the extensor surface of the upper extremities. Herein we report the case of a patient with erythema multiforme with atypical distribution and course.

Methods: A 56-year-old female patient presented to the Dermatology Department with a generalized rash, consisting of typical and atypical target lesions, mildly pruritic, located mainly on the trunk, dorsal aspects of the superior limbs, axillae, and genital area and with painful oral fissures. The lesions occurred 5 days prior. Also, she was diagnosed with subacute thyroiditis 2 weeks before and received oral treatment with corticosteroids and NSAIDs; medication that was still present when the patient was admitted in the Dermatology Clinic. The differential diagnosis was made with SCLE, Sweet syndrome and fixed drug eruption.

Results: Histopathologic results showed characteristics compatible with the diagnosis of erythema multiforme: vacuolar degeneration of the basal cells, moderate perivascular lymphomonocytic infiltrate in the dermis and exocytosis of neutrophils into the upper epidermis. Under topical treatment with medium-potency corticosteroids, oral second-generation antihistamine, and oral corticosteroids (as prescribed for the underlying thyroiditis), the lesions resolved within two weeks.

Conclusions: Erythema multiforme is self-limited immune reaction with specific findings and distribution. The particularity of this case consists of the unusual topography of the lesions and the onset of the condition after systemic therapy with corticosteroids.

ID686 Infections in intravenous drug users in Romania objectives

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People who inject drugs are at a higher risk to contract an infectious disease whether if the consumption is regular or occasional. The principal infections that can be transmitted by needle sharing are: HIV/AIDS, viral hepatitis, endocarditis, cutaneous infections, botulism, anthrax, upper tract respiratory infections.

The objective of our study is to present the main infections associated with intravenous drug usage in Romania.

Methods: Data from WHO, UNAIDS, 2021 Romanian Antidrug National Agency reports were extracted and an observational study was conducted. We compiled the articles, studies and reports, centralized them and tried to show the epidemiological relevance of the primary infectious diseases that can appear in the IV drug users' population, the main drugs that are used in Romania, why is the intravenous method preferred and why this is a modern public health issue.

Results: In 2019's Romania (according to ANA) there were ~21000 users of opioids (80,6% male, 50,5% between 25 and 34 years old). The prevalence of the supervised diseases among the patients who came for medical treatment in 2022 was 22,1% for HIV, 72,5% for hepatitis C, 9% for hepatitis B (the percent doubled compared to 2016).

Heroin is the drug of choice in Romania, followed by new psychoactive substances and methadone. Most of the I.V. users are living in/around Bucharest and the median age is 23 years old. There was a drop in the consumption of heroin, but an alarming increase of new substances use.

Conclusion: In Romania, the highest rates of drugs consumption are seen in the young population (15 – 34 years old), intravenous drug consumption being a serious and complex public health challenge. Even if nowadays, there are multiple services and programs that are trying to reduce the spread of disease, this population is still at risk to develop a range of infections and life-threatening complications.

ID689 Comorbidities in older adults with inflammatory bowel diseases

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Introduction: Inflammatory bowel diseases (IBD) are represented by ulcerative colitis (UC) and Crohn's disease (CD), each of which has different clinical and histopathological presentations. The comorbidities of elderly patients with inflammatory bowel diseases influence the therapeutic and diagnostic results, which indicates a need to investigate which are the most common comorbidities. The association between inflammatory bowel diseases and comorbidities highlights the importance of a multidisciplinary approach to these patients.

Materials and methods: Following the review of the scientific literature, the importance of evaluating the influence of comorbidities on the prognosis of the disease in patients diagnosed with IBD was emphasized. The data revealed by the scientific articles were analyzed according to the type of IBD, age group, diagnostic methods, and therapeutic options. Inclusion criteria: patients with BII, age over 65 years and presence of comorbidities. Exclusion criteria: patients without a diagnosis of BII, patients younger than 65 years, patients without comorbidities. The presence of comorbidities was investigated related to the type of IBD, disease duration, sex, therapeutic approach and risk factors.

Result: Recent studies have shown that the most common comorbidities in this population were: cardiovascular and respiratory pathologies, cancer, arthritis, kidney and liver pathologies and migraine or severe headache. Some authors believe that the presence of comorbidities in older adults with IBD can affect the functionality of these patients, reducing the quality of life and adherence to treatment. Also, along with the most common comorbidities, malignancy and increased predisposition to infections highlight the vulnerability of older adults to the complications of immunosuppression used in the therapeutic approach of patients diagnosed with IBD.

Conclusions: IBD in the older population are accompanied by many comorbidities, thus a multidisciplinary approach to these patients is necessary to improve their quality of life and prevent possible complications.

ID690 Anti-vaccination myths and their role in vaccine acceptance

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Objective: The increasing vaccine hesitancy among the Romanian population is reflected in the gradual decline of vaccination rates since 2009, as shown by the statistical data from the Romanian National Center for Surveillance and Control of Transmissible Diseases. The purpose of our study is to present the most frequent myths regarding vaccination.

Methods: In order to achieve our goal, we consulted the scientific literature as well as the information from public health institutions (WHO, ECDC, CDC). We have selected the 25 most common myths based on the type of vaccine and the population eligible for vaccination (pregnant women, premature infants, newborns, children and adults).

Results: The most common myths include: 1. Transmissible diseases vanished before the introduction of vaccination due to improved sanitary and hygienic conditions. 2. MMR (measles, mumps and rubella) vaccine may be a cause of autism. 3. The incidence of hepatitis B remains high because the vaccine is ineffective. 4. The disappearance of a transmissible disease from a country signifies that vaccination can be ceased in that territory. 5. There is a link between DTP (diphtheria, tetanus and pertussis) vaccination and sudden infant death syndrome. 6. Administering multiple types of antigens in a single vaccination increases the risk of adverse effects and overwhelms the immune system.

Conclusions: Accurate and scientifically based information plays a crucial role in restoring confidence in vaccines strategy, and it is imperative for all medical personnel to promote it through a unified message to the population, thereby increasing vaccination coverage. Dispelling vaccination-related myths on a large scale can only be achieved through collaboration and a collective effort of all healthcare specialists, which should be instilled during their years of education and professional training.

ID691 A short period of training in 3D echocardiography provides good feasibility and reproducibility of right ventricular assessment in heart failure

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Background: Right ventricular (RV) dysfunction is an independent risk factor for increased mortality and morbidity. Standard approach for assessing is 2-dimensional echocardiography (2DE). However, 2DE is prone to errors due to geometrical assumptions of RV shape. 3D echocardiography (3DE) is a more accurate method for assessment of cardiac volumes and calculation of ejection fraction (EF), but with a cumbersome learning time-curve.

Objectives: To establish if trainees in 3DE provide feasible and reproducible 3D measurements of RV size and function, by comparison to 2DE assessment, after a short period of training by an expert in echocardiography.

Methods: 161 consecutive patients (58±17 years, 71% males, 3D left LVEF 35±10%), hospitalized for heart failure (HF), underwent standard precordial 2DE acquisitions and 3DE of the RV. One expert, and one fellow trained for 2 years in 2DE and for 3 months in 3DE, performed measurements of 2DE and 3DE parameters for RV size and function, in a blinded fashion. 2DE parameters were measured first: RV diameter, RV end-diastolic (RVED) and end-systolic (RVES) areas, RV fractional area change (RV FAC), tricuspid annular plane systolic excursion (TAPSE), tricuspid annular systolic velocity (RV S'), and RV free wall longitudinal strain (RV LS). 3D RVED and RVES volumes were measured, and RV ejection fraction (RVEF) was calculated.

Results: Feasibility of 2DE and 3DE was 97% and 92%, respectively, patients being excluded due to poor quality images, similarly for expert vs. trainee. Mean RVED volume was 94.0±30.6 ml/m², and mean RVEF was 37.3±9.6%. Reproducibility of 2DE parameters obtained by the expert vs. trainee were good for the assessment of RV longitudinal function (TAPSE, RV S', and RV LS), but suboptimal for the assessment of RV size and global function (RV diameter, RV areas, and RV FAC). Reproducibility of 3DE parameters obtained by the expert vs. trainee were also good, even after a short period of training (3 months).

Conclusions: A short period of training in 3DE provides a good feasibility and reproducibility of the assessment of RV size and function, in a large cohort of hospitalized patients with HF. 3DE might be a more reliable method than 2D for the initial assessment of patients with HF.

ID692 Burkitt lymphoma with bilateral breast involvement, an uncommon presentation

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Introduction: Burkitt lymphoma is a high-grade, very aggressive B cell type lymphoma, characterized by endemic, sporadic, or immunodeficiency-associated forms, with similar morphologic and immune features, despite the differences in their presentations and geographic distributions. Breast lymphoma is a rare condition, accounting for a small percentage (0.04-0.5%) of malignant breast tumors and can be categorized into primary disease or secondary involvement. In cases of widespread disease, secondary breast involvement is more common, while primary breast lymphomas are rarer and predominantly non-Hodgkin lymphomas, with diffuse large B-cell lymphoma being the most common type.

Method: A 32-year-old woman, with no personal medical history, noticed palpable masses in both her breasts, which have increased in dimensions, but she did not seek medical help until her general health was severely altered, with shortness of breath at minimum effort and dysphagia. The clinical examination and paraclinical investigations revealed multiple tumoral masses: mediastinal, ovarian, and bilateral breast masses, as well as multiple cervical, axillary and abdominal-pelvic lymphadenopathies. Surgery is performed and several axillary lymph nodes are sent for histopathological examination.

Results: On standard H&E stain histological examination, the architecture of one lymph node was replaced by sheets of monotonous intermediate size cells with interspersed tangible body macrophages, giving a starry sky appearance. Immunohistochemistry confirmed the diagnosis of Burkitt's lymphoma. A chemotherapy regimen was initiated, yielding rapid results by reducing both mammary and ovarian tumoral masses.

Conclusions: Burkitt lymphoma in the breast is an unlikely tumor and was described during pregnancy or lactation. Because of its invasive qualities, patients are often diagnosed at advanced stages or, in unfortunate cases, postmortem. Given these circumstances, it's crucial to promptly establish the diagnosis when Burkitt lymphoma is suspected. This way, medical intervention can possibly halt its progression and can increase the patient's survival rate.

ID693 Implantable Cardioverter-Defibrillator Lead Failures - Characteristics and Comparison by Manufacturer

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Background: Implantable cardioverter-defibrillators (ICDs) are a life-saving therapy in patients at high risk of sustained ventricular arrhythmias (VAs) or survivors of resuscitated VAs. The durability of endovenous ICD leads is a "weak link" for these devices, thus incidence and factors for lead failure (LF) merit investigation.

Aim: To assess LF characteristics and longevity of ICD leads.

Methods: We retrospectively analyzed data for all ICD leads implanted in our center from 2006 - 2021. Of a total of 338 patients, this study included 248 patients with follow-up >12 months in our clinic. Mean follow-up was 60 ± 35 months. The 248 leads were manufactured by: Biotronik (93 leads, 37.5%), St Jude Medical/ Abbott (80 leads, 32.3%), Medtronic (26 leads, 10.5%), and Boston Scientific (49 leads, 19.8%).

Results: We identified 15 LFs (6% of analyzed leads). Median time from implant to LF was 60 ± 34 months. Lead-related issues encountered were: non-physiological high-rate sensing in 4 (26.7%), significant increase in pacing threshold in 6 (40%), significant decrease in sensing in 2 (13.3%), increase in pacing impedance >1500 ohm in 6 (40%), decrease in pacing impedance <200 ohm in 1 (6.7%), and increase in shock impedance >200 ohm in 1 (6.7%) of the cases. Of the 15 LFs, 3 (20%) resulted in inadequate ICD shocks.

No significant differences in lead survival were found between all 4 lead manufacturers (p=0.081) by Kaplan Meier analysis. No LFs were found for Boston Scientific leads. The probability of lead survival was significantly decreased in Biotronik leads compared to Medtronic (p= 0.041), with no significant differences between Biotronik and St Jude Medical (p=0.519) or between St Jude Medical and Medtronic leads (p=0.073).

Conclusion: ICD LFs are a major problem but remain infrequent. In this single-center real-world experience, survival rates of ICD leads have differed by manufacturer.

ID694 Postmenopause as a risk factor for urinary tract infections with multidrug-resistant bacteria

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Objectives: Urinary tract infections are a common condition among postmenopausal women. Along with genitourinary syndrome, it negatively impact the lives of patients. Approximately 40% of women face at least one episode of urinary infection that requires antibiotic treatment, the most common bacteria being *Escherichia coli*, in 85% of cases. Also, along with other factors, menopause favors frequent relapses of infections. The current study shows the importance of postmenopause as a risk factor for urinary tract infections in women, with multidrug-resistant bacteria.

Method: The current study is retrospective, observational, carried out between January 1, 2019 and December 31, 2020; it included patients with urinary tract infection proven by the presence of a urine culture with $\geq 10^5$ CFU/mL, collected in the first 48 hours after hospitalization.

Results: The mean age is 68.66 ± 18.69 years, with a median of 74 years, the majority of patients being female (66.1%), of which 80.3% of patients are postmenopausal. The most frequent pathogen incriminated was *Escherichia coli* (61.7%), followed by *Klebsiella* spp. 14 (12.2%) and *Pseudomonas aeruginosa* 11 (9.6%). Postmenopausal patients were more frequently associated with resistant strains of bacteria (83.3% vs 70.0%) ($p=0.259$).

Conclusions: Urinary infections are more common in women, both at the fertile age and in the menopausal period, a fact well highlighted in the current studies. In the present study, which includes patients with urinary tract infection, the majority were women, in an important proportion at menopause. The drop in estrogen levels during menopause can lead to changes in the urothelium and the urogenital microbiome, reducing the natural defense mechanisms against urinary infections, partly explaining the high frequency of these infections in menopausal women.

ID699 Therapeutic approach in acute ischemic stroke associated with traumatic internal carotid artery dissection

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Objectives: The treatment for patients with acute ischemic stroke (AIS) with traumatic internal carotid artery (ICA) dissection is a controversial subject. Nowadays, even if there are no safe solutions for treating this association of pathologies, the modern revascularisation therapies (chemical or mechanical) can be the preferred method for patients with AIS associated with large vessel occlusion.

Material and method: We present the case of a 59-year-old male patient, chronic ethanol user and chronic smoker. He was brought to the emergency room for a sudden onset symptomatology characterized by pronunciation disorder and motor impairment in the left limbs after a fall from his own level with right anterior cervical trauma. The patient benefits from diagnostic and therapeutic cerebral angiography. A right ACI occlusion is detected at the post-bubar level with a thrombotic aspect. The thrombus and intimal tissue are extracted, result supported also by the histopathological examination. This result explained that arterial dissection with associated thrombosis was the mechanism of stroke production. Stenting in the acute setting was delayed due to thrombolysis and due to the good result after mechanical repermeabilization with a TICI score of III with an patent ICA, even if it has a irregular caliber and small associated residual dissection.

Results: The noncontrast cerebral computed tomography (CT) scan and CT angiography in dynamics demonstrated an hypodense area in the territory of the right ICA with dissection at C1 segment with 50% stenosis at this level. Complete etiopathogenic investigations for ischaemic stroke was performed, concluding that cause was the the atherothrombotic mechanism after traumatic arterial dissection. Analyzing the clinical and paraclinical aspects, we decided dual antiplatelet therapy and a high-dose statin. The clinical evolution of the patient was favorable, with almost complete remission of the symptoms until the discharge and six months later.

Discussion and Conclusions: Nowadays, the guidelines are not clear about the treatment choice both in the acute phase and for secondary prevention for AIS associated with acute traumatic arterial dissection. The attending physician should take the decision for an individualised treatment. In conclusion, benefits of chemical or mechanical revascularization in acute ischemic stroke with traumatic ICA dissection may be more important than the risks, but a through multidisciplinary approach is needed. In addition, when treating a noncompliant patient, dual antiplatelet therapy can have more benefits than stenting considering the risk of in-stent restenosis.

ID709 Impact of Coronary Artery Disease Severity on Left Ventricular Ejection Fraction in Patients with Acute ST Segment Elevation Myocardial Infarction

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Objectives: To determine whether coronary artery disease (CAD) severity evaluated through the anatomical SYNTAX score has an impact on left ventricular ejection fraction (LVEF) in patients without previous known LV dysfunction who are hospitalized with acute ST segment elevation myocardial infarction (STEMI).

Methods: We evaluated a cohort of 56 patients who were admitted with a diagnosis of STEMI at the Bucharest Emergency and University Hospital between 2020 and 2021. SYNTAX score was determined using the on-line calculator after review of angiographical images obtained during primary coronary angioplasty. LVEF was assessed by 2DE and 3DE. Measurements were done offline (EchoPAC – GE Healthcare) using Simpson's biplane method and using 3D LVQ. Statistical analysis was carried out using the SPSS Statistics v 20.0 (IBM) software. Correlations between SYNTAX score results and LVEF determined by the two separate methods were investigated using Spearman's correlation coefficient and linear regression calculations were also carried out.

Results: In our study cohort the SYNTAX score was negatively correlated with both LVEF determined by Simpson's biplane method ($r = -0.419$, $p = 0.002$) and also 3D LVEF ($r = -0.447$, $p = 0.001$).

Conclusions: Our results suggest that the severity of coronary artery disease which can be objectively quantified using the SYNTAX score is correlated with LV systolic dysfunction in patients with acute STEMI who were previously unknown with impaired LVEF.

ID716 The right therapeutic approach in acute ischemic stroke in revascularisation window at the pregnant patient

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Objectives: Studies have indicated an association between the presence of patent foramen ovale (PFO) and cryptogenic stroke in young patients, but a significant association is not confirmed. Major thrombophilic mutations such as factor V Leiden mutation and prothrombin mutation have been associated with stroke risk. Current recommendations do not suggest the need for antiaggregation or anticoagulation in patients with minor thrombophilic genetic mutations.

Materials and methods: We present the case of a 29-year-old female pregnant, smoker patient. She presented to the emergency room for a sudden onset symptomatology characterized by pronounciation disorder and motor impairment in the right arm with numbness at the same level. She presented in revascularisation window. As personal history, she did not have any previous pregnancy loss and was scheduled for cesarean section (required for two placentas). Native brain CT did not show any cranial lesions. Given the pregnancy, medical revascularisation therapy was excluded. In a multidisciplinary team consisting of a neurologist and a gynecologist, an emergency cesarean section was decided. Subsequently, the patient performs angio-CT of supra-aortic vessels which does not detect large vessel occlusion. Drug treatment for secondary prevention is decided.

Results: The brain MRI revealed hypersemnal lesion in diffusion sequence with low ADC correspondence at the frontal level of the left side, affecting middle gyrus and precentral gyrus. Microemboli detection revealed passage of 8-10 microemboli suggestive of an interatrial communication. Transesophageal ultrasound revealed a small PFO. Biologically, vitamin B12 deficiency, homozygous MTHFR gene mutation and heterozygous positive PAI gene mutation were detected. Doppler ultrasound of cervico-cerebral vessels did not detect atheroma plaques. The EKG monitored for 24 did not show fibrillation episodes. Anticoagulation was decided for stroke secondary prevention.

Discussion and conclusion: The particularity of the case comes from the sequence of medical interventions in such a case. Native brain CT is initially performed to rule out another cause of acute neurological deficit. After exclusion, emergency cesarean section is performed under general anesthesia. Then the cerebral imaging with angio-CT of supraaortic vessels is redone. Finally, the eventual mechanical revascularisation procedure follows if large vessel occlusion is identified. On the other hand, we emphasize the importance of evaluating thrombophilic status and patent foramen ovale in patients with ischemic stroke at a young age. In addition, the particularity of the case comes also from the etiology of the stroke, the positive thrombophilic status, in a patient with no personal pathological history pointing towards this diagnosis. Moreover, the therapeutic decision for secondary prevention took into account the post-partum status of the patient, using low molecular weight heparin and requiring ablation with cabergoline.

ID721 Trapped in a spider web of comorbidities

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Abstract. We report the case of a 63-year-old woman with hypertension and dyslipidemia who initially presented with heart failure and atrial fibrillation with slow ventricular response. Blood tests identified marker of myocardial distension, inflammatory syndrome, mild anemia. Electrocardiogram showed negative T waves in the precordial leads, without evolution during hospitalization. Echocardiographic evaluation showed preserved LVEF, severe biatrial dilatation, severe mitral regurgitation. Considering the indication for mitral valve replacement, for a better anatomical description we performed a transesophageal echocardiography which showed A1-A2 flail, tricuspid annulus dilatation. Preoperative preparation included the identification of the etiology of anemia, a thoraco-abdomino-pelvic CT scan was performed, indicating the presence of numerous mediastinal and abdominal adenopathies and parietal thickening of the descending colon. Based on electrocardiographic changes, atrial dilatation and adenopathies the suspicion of sarcoidosis was raised. Cardiac MRI excluded cardiac changes of suspected sarcoidosis. Thoracic lymph node biopsy was performed. Anatomopathological exam excluded sarcoidosis, but it was suggestive for secondary determinations. The patient underwent a superior digestive endoscopy with normal result and a colonoscopy which identified a tumoral lesion in the descending colon. AllRAS, BiRAF testing was performed and KRAS mutation has been identified. The diagnosis was stage IV descending colon adenocarcinoma. A multidisciplinary team was convened consisting of cardiologist, cardiovascular surgeon, thoracic surgeon, general surgeon, gastroenterologist, oncologist, radiologist. The decision was to initiate oncological treatment with bevacizumab and FOLFOX. Our patient was evaluated by oncologist and cardiologist every month for 6 months, with favorable evolution of oncological disease, without cardiotoxicity and good therapeutic control of heart failure. Mitral valve prosthesis and tricuspid annuloplasty were then performed, followed by surgical treatment of colonic neoplasia. Particularity of this case is represented by the secondary thoracic and abdominal lymphatic determinations of a colon cancer, without affecting other organs and the need for multidisciplinary team for individualized therapeutic approach.

ID724 Essential histopathological criteria for adjuvant chemotherapy in rectal cancer

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Objectives: Locally advanced rectal cancer(LARC) is treated with neoadjuvant radio-chemotherapy followed by surgery and possibly adjuvant chemotherapy. The international guidelines recommend adjuvant chemotherapy(ADJ-CHT) in stage III, but there is a difference for stage II. In Romania, oncologists have the opportunity to follow international protocols and use individual judgment in the decision of the ADJ-CHT administration.

The aim of the study is to identify the criteria chosen by oncologists to administer ADJ-CHT.

Materials and methods:186 patients with LARC in stages II-III were included in a retrospective study. The patients were recruited from Coltea Clinical Hospital Bucharest during 2017-2021. Neoadjuvant treatment included external radiotherapy DT=45-50.4Gy, 3D technique or IMRT +/- chemotherapy capecitabine DT=825 mg/m2 bid. The surgical intervention was performed for all patients 8-12 weeks after the neoadjuvant treatment. The following were analyzed: tumor and nodal stage, resection margins, histopathological grade, presence of lymphovascular and perineural invasion.

Results: Using the Pearson correlation coefficient and applying the 2-tailed T-Test,we checked the correlation between the adjuvant treatment and histopathological results. ADJ-CHT is correlated with a moderate score of 0.432 for a histopathological stage pT3/pT4.The moderate score of positive correlation 0.462 is also valid for the presence of lymphatic invasion(pN>0). For the ADJ-CHT correlation and at least 1 risk factor, the Pearson score is highly positive 0.633 with statistical significance p<0.001. In the case of the presence of at least 1 relapse risk factor, the romanian oncologist decides to administer ADJ-CHT.

Conclusions: The decision for ADJ-CHT in patients with LARC stage II-III is based on the presence of a pT>2, pN>0 or at least one risk factor among: positive resection margin, presence of lymphovascular or perineural invasion and histopathological grade>1. Oncological practice is heterogeneous due to the lack of standardized national guidelines and a cancer registry to centralize these data.

ID725 Aggressive behavior towards the family determined by recurrent meningioma

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Objectives: Brain tumors may often manifest without neurological symptoms and still cause psychiatric symptoms, such as behavior disorders, personality changes, depressive mood, anxiety and cognitive disorders. Meningioma represents a benign tumor arising from meninges and is usually asymptomatic. These tumors usually grow slowly, sometimes producing symptoms only when they reach impressive sizes. This case report aims to present a male patient who presented for psychiatric symptoms due to recurrent meningioma.

Methods: A 71-year-old male patient with a history of frontal meningioma for which he was operated on in 2017 presented to the Psychiatric Department for depressive mood, irritability, insomnia and aggressive behavior towards family members. Behavioral changes started gradually and worsened over time. During the mental examination, deficits in attention and memory, changes in speech, irritability, depressive mood and insomnia were detected. Routine tests were performed, together with a brain MRI, as the patient presented atypical symptoms with late-onset.

Results: The brain MRI revealed an expansive right frontal pericerebral process suggestive of a recurrence of the meningioma. He did not present recent ischemic brain lesions. Based on the imagistic changes, behavioral, mood, cognitive and circadian rhythm changes, a diagnosis of mental disorder due to another medical condition was established.

Conclusions: In certain situations, brain tumors may manifest with psychiatric symptoms, without presenting neurological symptoms. This case highlights the need for neuroimaging investigation in patients presenting atypical psychiatric symptoms with late-onset.

ID730 The effects of Electroconvulsive Therapy in Major Depressive Disorders

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Objectives: Depressive disorder is one of the most frequent and debilitating mental illnesses. It is evaluated that around one third of major depressive episodes do not achieve remission after two trials with antidepressant treatment associated with psychotherapy, so for these particular cases electroconvulsive therapy (ECT) can be an efficient therapeutic resource. This study aims to analyze the efficacy of electroconvulsive therapy in severe, depressive episodes in Unipolar Depressive Disorder, compared to similar episodes occurring in Bipolar Disorder.

Methods: This prospective study is conducted on 30 patients diagnosed with severe, psycho-pharmacotherapy resistant episodes of depression, that require ECT. They are evaluated before, during and after ECT sessions with Montgomery-Asberg Depression Scale (MADRS). The number of ECT sessions necessary for achieving remission and the duration of remission after completing the ECT cycle are also important factors in evaluating the efficacy of this therapy.

Results: Patients with Unipolar Depression achieved remission after an average of 7 ECT sessions and maintained the remission for more than 6 months after completing the therapy plan, while patients with Bipolar Disorder required more than 9 therapy sessions to achieve a significant improvement of symptoms and the mean remission period was 4,5 months.

Conclusions: ECT is an efficient tool in treating major depressive episodes with good results in unipolar depressive disorder, as well as in bipolar affective disorder. Severe, resistant depressive episodes occurring in patients with bipolar affective disorder necessitate more ECT sessions in order to achieve remission and they tend to relapse after shorter periods of time. Also, age and sex do not have a significant impact on complications occurred, number of sessions needed to achieve resolution of depressive symptoms or the remission period after the completion of ECT sessions.

ID732 Pain management of Lumbar Disk Herniation in elderly

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Objectives: Lumbar disk herniation(LDH) is not a common pathology in elderly but it can become a disabling one, the higher risk being at the age of 65-70.

Method: We conducted a retrospective study(-March2022-Febr2023), patients with LDH(N=21) hospitalized in the Geriatrics Department at "Sf. Luca" Chronic Diseases Hospital. We measured the following variables: age, gender, location of LDH, surgery, use of soft analgesics, functionality score, eutrophic injectable therapy(GH3). All patients had physio-kineto-therapy recovery, GH3 was administered as a paravertebral infiltration 1 ampoule per day, 10 days, at patients that didn't present contraindications(anticoagulant, cancer etc.) and who accepted the recommendation.

Results: Mean age was 66 years old [47-85] (SD7.85), 81%females. Main levels of LDH were L3-L4 and L4-L5 (28%), L5-S1 (14.3%), unspecified lumbar location(28.6%). Regarding depression 16.6% had GDS (Geriatric-Depression-Scale) above 7, therefore they are suffering from depression. More than a half of patients had been through surgery for LDH(57.1%). From patients that had surgery, 58.3% received GH3(p=0.067). From patients that didn't had surgery, only 11.1% received GH3(p=0.067). 63.6% from patients who chose to get surgery have an IADL of 8 (p=0.176). Regarding pain management, 42.9% from all patients are using low analgesics and 38.1% used GH3. We noticed that from the patients that received GH3, 87.5% are not using analgesics(p=0.067). Whereas from patients that didn't receive GH3, 61.5% are using analgesics(p=0.067). 25% of the patients that received GH3 had LDH at L3-L4 levels (p=0.531). 85.7% from patients that received GH3 had maximum IADL score(8)(p=0.047).

Conclusions: Elderly people are prone to address the doctor later in time after the onset of pain, therefore they are diagnosed later and have fewer treatment options. Besides surgery and analgesics, LDH pain management can be addressed also with GH3 therapy with good results. Patients that receive GH3 injectable therapy for pain management use less soft analgesics.

ID733 Abnormal sialoglycoconjugates metabolism in IgA nephropathy

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Aim: Sialoglycoconjugates metabolism was little studied in glomerulonephritis. These compounds play crucial role in podocytes structural and functional integrity and filtration barrier. We aimed we analyse sialo-glyco-conjugates remodelling in Ig A mesangial deposits nephropathy.

Method: We developed a case control study that included two groups – Ig A nephropathy group that included 72 subjects diagnosed with this glomerulopathy by histological exam after renal biopsy and a control group that included 72 healthy subjects - similar as age, sex, body mass index. We determined serum levels of TSA - total sialic acid, LSA - lipid-bound sialic acid, ST6GalI - beta-galactoside, 2,6-sialyltransferase I, NEU3—neuraminidase 3 and eGFR- estimated glomerular filtration rate.

Results and conclusions: The results of the study showed high levels of TSA, LSA, NEU3 and reduced ST6/GalI/NEU3 ratio in IgA nephropathy versus control. We determined a negative, statistically significant relation between sialoglycoconjugates associated factors (TSA, LSA, ST6GalI, NEU3) and eGFR in IgA nephropathy ($r > 0.65$, $p < 0.01$). In conclusion, in Ig A nephropathy metabolic remodelling of sialoglycoconjugates was proved by accelerated synthesis, conversion an degradation of these molecules associated with the disease progression. The results of the present study offer new data important in understanding Ig A nephropathy pathogenesis.

ID734 Patient profiles and invasive management timing in high-risk non-ST elevation acute coronary syndromes in two university hospitals in Germany and Romania

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Background and aims: The management of patients with non-ST elevation acute coronary syndromes (NSTEMI-ACS) remains heterogeneous across Europe. We aimed to describe the profiles of high-risk NSTEMI-ACS patients and the factors associated with invasive coronary angiography (ICA) timing in 2 university hospitals from 2 European countries with different cardiovascular disease (CVD) prevalence and economic statuses.

Methods and results: All invasively managed high-risk NSTEMI-ACS patients, as defined by the European Society of Cardiology guidelines, admitted in 2022 in the West German Heart and Vascular Centre, Essen, Germany (GER), and the University and Emergency Hospital, Bucharest, Romania (RO) were identified. 587 patients were included in the analysis (301 RO, 72.8% male; 286 GER, 66.4% male; $p>0.05$). RO patients were younger (64.6 vs. 70.6 years, $p<0.001$), with higher rates of obesity ($p=0.013$), hypertension ($p=0.001$), dyslipidemia ($p<0.001$), diabetes ($p<0.001$) and active smoking ($p=0.019$). Previous myocardial revascularization ($p<0.001$), chronic respiratory disease ($p<0.001$), sleep apnoea ($p<0.001$), dysthyroidism ($p<0.001$) and neoplasia ($p=0.036$) rates were higher in Germany. 74.8% GER and 68.1% RO patients underwent ICA <24h from admission ($p=0.006$). Admission during cath-lab working hours ($p<0.001$) and transfers ($p=0.004$) were associated with ICA <24h in RO, whilst typical angina ($p=0.002$), and myocardial infarction ($p<0.001$) in GER. ICA >24h was associated with weekend admissions ($p<0.001$), previous anticoagulation ($p<0.001$), ST depression ($p=0.007$), and creatinine ≥ 1.5 mg/dl ($p=0.007$) in RO, and with weekend admissions ($p=0.004$), additional medical management before ICA ($p=0.027$), and atrial fibrillation at admission ($p=0.049$) in GER.

Conclusions: Invasively managed high-risk NSTEMI-ACS patients in Romania were younger, with higher rates of CVD risk factors, lower previous myocardial revascularization, and potentially more frequent underdiagnosed chronic non-cardiovascular comorbidities. Factors associated with ICA timings differ between centres, related to both hospital logistics and patient characteristics.

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ID735 Tension-type headache and arterial hypertension - from the patient's point of view

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Objectives: Tension-type headache is the most common type of chronic headache encountered in clinical practice. The name was coined because of the suspected etiology (pericranial muscle tension). However, it is not related to arterial hypertension, nor is hypertension related to the presence of a headache (except for the case of hypertensive encephalopathy).

We aimed to assess what is the perception of people without any medical knowledge, regarding this issue.

Material and methods: A questionnaire was given to a total of 45 patients and caregivers (none of them doctors). The questionnaire consisted of three questions: (1) have you heard of tension-type headache; (2) if you were to receive a diagnosis of „tension-type headache”, would you think it is related to arterial hypertension; (3) if you were to receive a diagnosis of „tension-type headache”, would you ask the doctor if you have high blood pressure. Information about the age and level of education was also collected.

Results: Mean age of the participants was 51 ± 12 years-old (range: 33-81 years). There were 73% females ($n=33$). 53% had a university degree, while 46% had a high-school degree. 76% have not heard of tension-type headache before. 44% believed tension-type headache is related to arterial hypertension, while 80% would ask the doctor about their blood pressure level after receiving this diagnosis. Participants who would not ask about their blood pressure level were overall younger (43 ± 12 years) than those who would (54 ± 11 years) ($p=0.01$). No correlation was found between the educational level of the participants and the answers given.

Conclusions: Some people erroneously believe tension-type headache relates to arterial hypertension, and many would ask the physician about their blood pressure level. Communication is essential in assuring the patient that there is no connection between the two. It follows that correctly understanding the diagnosis will improve treatment adherence.

ID737 The impact of cardiac rehabilitation program in patients with aortic aneurysm - A review of the literature

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Background and Aim: Cardiac rehabilitation (CR) was first mentioned in the 2014 Canadian Cardiovascular Society guidelines as a safe treatment in patients following thoracic aortic repair with the potential to reduce mortality. The latest AHA and ESC Guidelines on diagnosis and treatment of aortic diseases do not specify CR, but both recommend physically-active behaviour and regular aerobic exercise. The aim of this review was to identify the impact of CR in patients with aortic aneurysm (AA).

Methods: We did an advanced search on PubMed targeting the syntax of keywords (cardiac rehabilitation) AND (aortic aneurysm) which returned 78 results published between 2003 and 2023. After applying the inclusion criteria (relevant article published in trusted journals; studies including patients with AA who underwent CR) and exclusion criteria (duplicate articles, studies including patients with aortic dissection or acute aortic syndrome), 11 publications were selected.

Results: From the selected studies, eight (72.7%) were published in the last five years, showing the novelty of the subject in the literature. One study reported that CR protects against the expansion of the AA. Another study concluded that preoperative CR may reduce postoperative cardiac and renal complications but several studies disclosed that there is not a well-defined standard protocol for CR. Six studies (54.5%) concluded that CR should be an integrated part of the postoperative management of a patient with AA.

Conclusions: Patients with AA can safely perform exercise training. CR is a complex program tailored for each patient condition and needs. Studies show that CR improve the cardiac function and the quality of life. With the advances made in the endovascular aortic repair, further studies regarding the physical recovery, CR and socio-profesional reintegration of the patients who received an endoprosthesis should be made, as this minimal-invasive strategies represent the future in the treatment of this pathology.

ID742 Frailty syndrome: implications and challenges for Clinicians

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Objectives: Recognizing frailty and understanding its progression will help physicians develop treatment plans and better discuss prognosis, as the average life expectancy of the population continues to increase.

Methods: Patient P.E., 81years old woman, admitted 3 times during: 2022.05 - 2023.05 in Geriatric Department 'Sf. Luca' Chronic Diseases Hospital Bucharest.

Presenting complaint: first-presentation: generalized weakness, forgetfulness. Subsequent presentations: generalized weakness, exhaustion, slow gait, poor balance, decreased physical activity, significant weight loss, increasing vulnerability to stressors (falls, infection, comorbidities).

Medical History: Type 2 DM, HBP, CKD-KDIGO grade 3a (mildly to moderately decreased) which later developed into stage 4 (severely decreased) passing through a temporary stage 5 (kidney failure) due to episode of Contrast associated acute kidney injury (CA-AKI) stage 2 following i.v. administration of iodinated contrast medium.

Results: After first admission was put the diagnosis of primary degenerative dementia Alzheimer type, middle-stage. Starting with 2nd admission: Mild Normochromic Normocytic Anemia, HCV chronic carrier, Chronic Urinary Retention needing permanent urinary catheterisation. This lead to Complicated UTI and urosepsis identified at an early stage during hospitalisation and promptly treated to prevent development MSOF and other complications. At 3rd admission the patient presented recurrent urinary tract infection (UTI) with different bacterial microorganism and the suspicion of Neoplastic Disease that could not be confirmed and was recommended to be kept under observation. When losses of reserve reach a threshold, result is serious vulnerability to stressors and identifiable changes in clinical, functional, biological and behavioural markers appear.

Assessment tools: Normoponderal BMI:20.31-19.53-22.9kg/mp, Mini-Nutritional Assessment (MNA) = 16p./30p. (malnourished), Rated functional dependent on Geriatric scales:ActivitiesDaly Living(ADL)=4p.-0.5p.-3p./6p., Instrumental ADL (IADL)=2p.-0p.-0p./8p. Rated normal (no geriatric depression) on Yesavage Geriatric Depression Scale (GDS)=3p.-0p.-0p./15p., Mini Mental State Examination (MMSE)=23p.-21p.-22p./30p. (constant mild cognitive disorder). Clock Drawing Test (CDT) Sunderland score=8p.-6p.-8p./10p., monoton FrailScale=46p./100p., Groningen Frailty Indicator (GFI)=8p./15p., Significantly reduced

Hand grip strength:13.1kg(right hand), 8.1kg(left hand), Short Physical Performance Battery Protocol (SPPB)=1p./12p. (sarcopenia).

Our patient's first clinical admission was because of Mild Cognitive Impairment (MCI) due to primary degenerative dementia of Alzheimer type (on 2022.05). Functional abilities (ADL & IADL) were mildly kept, and noticeable declined during subsequent evaluations throughout second hospital presentation. Dementia and cancer limit the chances of improving frailty status. In subsequent presentations, the number of ailments increased. The patient presented frequent relapse of different disorders, with long recovery periods: significant weight loss, Chronic Urinary Retention needing permanent urinary catheterisation, repeated UTIs with various and resistant microorganisms, gradual alteration of kidneys and estimated glomerular filtration rate (eGFR) decrease, symptomatic and persistent medium to severe hyponatremia. During the last hospitalisation the suspicion of Neoplastic Disease appeared (age, ex-smoker, viruses exposure related to medical profession, anaemia, persistent fatigue and significant weight loss with kept appetite). A contrast CT scan at thoraco-abdomino-pelvic levels was performed being closely followed by an episode of Contrast Associated Acute Kidney Injury (CA-AKI) stage-2 after i.v. administration of iodinated contrast-medium. The episode was rebalanced at the cost of losing more from already limited autonomy, without being able to return to the previous functional level. It is important to be noted that these patients do not adapt to the stress of systemic disease as well as patients who are not frail.

Conclusions: Several validated frailty assessment tools can evaluate a patient for frailty. Research focused on early interventions to prevent or reduce the level of frailty identified: physical activity, nutritional support, psychosocial engagement as possible areas-of-benefit. Although there is no approved medication to treat any aspect of frailty, addressing polypharmacy may reduce the risk of becoming frail.

Implications: Understanding the basis for frailty could lay basis for understanding what resilience really is, and how it unravels. Frailty may initially be overlooked or incorrectly identified as part of the normal aging process because of the variable nature of the presentation and diagnosis. Not everyone is able to achieve successful aging. Identifying frailty in timely manner could lead to "optimal-aging" reflected in reduced depression and mortality risk, as well as better self-perceptions of aging successfully, increased quality of life, and improved lifestyle behaviours.

ID747 Impact of neoadjuvant treatment on tumor downstaging and distant metastases in rectal cancer

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Objective: Oncological treatment of locally advanced rectal cancer (RC) has undergone many changes in recent decades, benefiting from improved local and distant response rates after the introduction of neoadjuvant radiotherapy and chemotherapy (NRCT) in the last 2 decades.

The aim of this study is to analyze the relationships between neoadjuvant treatment, tumor/nodal downstage rate and 2-year relapse and metastasis rate.

Methods: All patients who received neoadjuvant radiotherapy or chemotherapy for RC in Colțea Clinical Hospital Bucharest between January 2017 and March 2021 were included in the study. A total of 101 patients with stage II-III CR received long-course irradiation up to 45-50.4Gy by 3D or IMRT technique at the pelvic level +/- capecitabine 825mg/m² twice daily. NRCT was followed by total mesorectal excision at 8-12 weeks. The Patients were followed up every 3 months for 2 years. The analysis was made using Pearson correlations and T-test in IBM SPSS software v26.

Results: Complete neoadjuvant treatment (concurrent radiotherapy and chemotherapy) is positively correlated with the occurrence of tumor and nodal downstaging, the more significant being the latter, with a Pearson correlation score of 0.436 and statistical significance $p < 0.001$. Neoadjuvant radiotherapy alone yields similar results for tumor downstaging, but weaker for nodal downstaging.

Analyzing the downstaging rate, there is a statistically significant inverse correlation ($p = 0.008$) between tumor downstaging rate after neoadjuvant treatment and 2-year metastasis rate of -0.193.

Conclusions: Tumor downstaging decreases the risk of metastases in the first 2 years and is associated with the use of neoadjuvant radiotherapy. The addition of radiosensitizing chemotherapy is associated with a higher chance of nodal downstaging. These results underline the importance of using neoadjuvant radio-chemotherapy, as downstaging is a prognostic factor in CR.

ID752 Accidental collective drug intoxication – management and treatment

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Isoniazid is an antibiotic used in the treatment and prophylaxis of tuberculosis. Because tuberculosis is a common disease in Romania, accidental or voluntary poisoning with isoniazid is possible. Abdominal pain, vomiting and nausea are common adverse drug reactions. However, neurological (seizures, coma), gastrointestinal and metabolic (metabolic acidosis) complications are severe side effects that can result from isoniazid overdose.

OBJECTIVE: The aim of this case series is to evaluate the clinical symptoms and medical outcome of accidental isoniazid poisoning.

METHODS: We describe 6 family members, ages 6 to 13 years old, who were admitted in our Toxicology Intensive Care Unit for acute isoniazid poisoning after ingesting 15 to 30 isoniazid 100mg tablets due to their mother's misunderstanding of medication administration.

RESULTS: One hour after isoniazid intake, all six children presented nausea, vomiting and seizures. Paraclinical findings showed metabolic acidosis (pH ranging between 7.29 and 7.35) and, in two cases, elevated liver enzymes were found. An abdominal ultrasound was also performed to rule out hepatic lesions. The treatment consisted of specific antidote administration (Pyridoxine/vitamin B6) gram-per-gram replacement, antiemetic medication and Diazepam rectal solution. Poisoning severity score (PSS) was evaluated as 2-3. The outcome was favourable.

CONCLUSION: All patients presented common clinical and paraclinical findings described in isoniazid intoxication. Each case had some particularities that required individualized management and treatment: recurrent seizures, mild head trauma, or severe metabolic acidosis (pH=7.28). All six patients responded well to antidote administration. They were discharged after 7 days, without any neurological sequelae.

ID757 The role of GLP-1 agonist in the prevention of cognitive impairment

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Objective: We present the clinical case of an 46-year-old patient with metabolic syndrome (obesity, hypertension, dyslipidemia, hyperuricemia, mellitus diabetes, sleep apnea), associated with mild cognitive impairment and degenerative brain MRI changes. We discuss the benefits of the treatment with GLP-1 both on body weight and maintaining glycemic values. Those benefits may influence also the neuronal cells, due to the antiinflammatory role of GLP-1 agonist.

Material and method: 46-year-old female known with mellitus diabetes, hypertension, obesity, hyperuricemia, sleep apnea, thyroid nodule, osteoarthritis, gastroesophageal reflux disease, anxious depressive disorder, and mild cognitive impairment. The brain MRI shows moderate symmetrical cerebral atrophy (fronto-parietal). To the basic treatment of comorbidities, GLP-1 treatment is added, which leads both to significant weight loss and maintenance of blood glucose values within normal limits.

Results: As Alzheimer disease is known as type III mellitus diabetes the agonists of GLP-1 are a new hope for treat cognitive disease in patients with insulin resistance or mellitus diabetes type II. The link between middle-life obesity and the development of later-life dementia support the importance of initiate agonist of GLP-1 in early stages of diabetes or in obese patients with insulin resistance.

Conclusions: There are a lot of ongoing studies that show the role of Semaglutide in decreasing the risk of cognitive decline. The agonist of GLP-1 works by altering the metabolic system and lowering inflammation throughout the body. By reducing inflammation the agonist of GLP-1 promotes survival of brain cells (reducing the accumulation of beta-amyloid and tau protein) and may be used in the future as a treatment of neurocognitive disease (Alzheimer and Parkinson disease).

ID764 Monitoring the athlete's health with wearable technology

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Objectives: Wearable electronics are expected to have a significant impact on personal healthcare, medical diagnosis, and athletic monitoring due to benefits including mobility, adaptive wearability, and the instantaneous distribution of sensory information. The Inno4Health project addressed this challenge through stimulation of innovation in fitness and health monitoring by using IoT devices and wearable sensors in order to inform patients and their treating physician regarding the readiness associated with surgery and the ability to recover rapidly from invasive treatment.

Methods: For both patients and athletes, this concept offers an advanced wearable sensor system (in the sole, t-shirts, patches). Particular body temperature, inertial, and local position tracking sensors are the focus of the Inno4Health project. The health of the athlete is monitored via wearable devices (FitBit Health Bands, Garmin watches) for data collecting. The goal is to evaluate various wearable technology, concentrating on the technical means of data collection.

Results: The results obtained reflect the technological issues regarding centralized data collection for permanent monitoring, biometric authentication for data security, data interpretation to produce useful information for sport and health coaches, dashboards to control patients' and athletes' physical and emotional health.

In order to allow use cases in the healthcare and sports sectors, the project intends to create a technological platform for data gathering, analysis and management. The introduction of a wearable ecosystem for data collecting and extraction of activity, movement, fitness, psychology, stress, sleep, and health metrics includes novel and traditional sensors of physiological parameters.

Conclusions: This paper is based on the Inno4Health project which outlines the role of a pioneer in the area of comprehensive data capturing and interpretation outside the hospital walls and training field. In addition, this concept will foster advances in sensing technologies, emerging IoT communication capabilities and artificial intelligence for embedded data interpretation and user analytics.

ID774 Acute Myocardial Infarction Complicated by Left Ventricular Pseudoaneurysm and Ischemic Stroke: A Challenging Clinical Case

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Objectives: Left ventricular pseudoaneurysm is a rare and life-threatening mechanical complication that can arise following an acute myocardial infarction (AMI), carrying a substantial risk of rupture. Although uncommon, ischemic stroke is one of the most dreaded complications associated with AMI. The aim of this study is to present a clinical case that illustrates the management of a patient with AMI and subsequent stroke.

Methods: We present the case of a 55-year-old patient who experienced dyspnea and an altered state of consciousness while on vacation in Italy. Diagnostic evaluations revealed a left ventricle pseudoaneurysm following a recent AMI, with evidence of ventricular rupture. Subsequently, he underwent coronary bypass surgery and ventriculoplasty. Brain imaging displayed multiple subacute ischemic lesions bilaterally located in the supratentorial region. The objective neurological examination revealed a patient who was non-verbal, incapable of following simple commands, but demonstrated spontaneous movement in the right limbs, with plegia observed in the left upper limb.

Results: As a result, the diagnosis of an ischemic stroke following AMI was confirmed. The patient's clinical progress was positive, exhibiting consciousness, cooperation, and the ability to follow both simple and complex instructions. There was noticeable improvement in motor deficits, but notable presence of optical ataxia, prosopagnosia, left-right disorientation, acalculia, alexia, agraphia, as well as apraxia in activities such as dressing and putting on shoes.

Conclusions: Ischemic brain lesions in the context of an AMI are a rare but serious complication, carrying potentially fatal consequences. Managing a patient who experiences both a stroke and an AMI simultaneously presents a real challenge. To enhance prognosis and improve outcomes for such patients, the establishment of multidisciplinary teams is essential. These teams will work together to develop personalized treatment and recovery plans, ensuring a more effective approach to patient care.

ID780 Implications of Type 2 Diabetes Mellitus in Patients with Acute Cholangitis: A Systematic Review of Current Literature

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Introduction: Type 2 diabetes mellitus (T2DM) has been associated with higher rates and poorer prognosis of infections, mainly due to poor glycemic control, reduced response of T-cells and neutrophils, and impaired migration, phagocytosis, and chemotaxis of leukocytes. However, the impact of T2DM on acute cholangitis (AC) has not been assessed so far. Thus, we aimed to explore this association by means of a systematic review of the literature.

Methods: This systematic review was carried out based on the recommendations stated in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. We searched the PubMed/MEDLINE, Web of Science and SCOPUS databases to identify relevant publications depicting an association between T2DM and AC from the inception of these search services up to present.

Results: We detected a total of 435 eligible records. After we applied the inclusion and exclusion criteria, a total of 14 articles were included in the present systematic review. Included manuscripts focused on the potential role of T2DM as a risk factor for the development of AC and on its contribution to a worse prognosis in AC, e.g., development of sepsis or other complications, the risk of AC recurrence and the impact on mortality.

Conclusions: As compared to non-diabetic individuals, patients with T2DM have a higher risk of AC as a complication of choledocholithiasis or gallstone pancreatitis. Several oral hypoglycemic drugs used in the management of T2DM may also be involved in the onset of AC. Diabetic patients who suffer from AC have a higher likelihood of longer hospital stays and sepsis, as well as a higher risk of mortality and more severe forms of AC as compared to non-diabetic individuals.

ID782 Coaching ageing people to use digital technologies

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The Active and Assisted Living Project AGAPE proposes the development of an "Active ageing And Personalised service's Ecosystem" – trying to provide ageing people with a digital platform integrating services designed to promote a healthy lifestyle and social inclusion. AGAPE proposes also to solve a difficult issue: the lack of digital knowledge and skills of the ageing generations. This issue is addressed by providing users with personalized teaching, training and coaching, based on the real needs of the users.

Objective: To define the requirements of the AGAPE Coach in regards of training.

Method: Bibliographic research and co-creation with ageing people, caregivers and potential future AGAPE coaches.

Results: The AGAPE Coach will evaluate the Innovation Adoption Profile of the user he/she teaches, trains and coaches, using a specific procedure. The results of this evaluation will be fed to the platform, which will provide the user with interface and functionalities adapted to his level of digital knowledge and skills. The AGAPE Coach must be able to provide personalized support to each user, requiring a superior level of knowledge in regards of information and communication technologies, eHealth, sensorised devices. The AGAPE Coach requires also knowledge and abilities in medical psychology, gerontology, physical and rehabilitation medicine, persuasive communication and coaching abilities.

Conclusion: The task of the AGAPE Coach will be complex. They will have to help AGAPE users to accept, integrate and adopt technologies dedicated to health and lifestyle monitoring and improvement, with meaningful output and benefits. In order to prepare the coaches for their tasks, AGAPE team decided to design and implement a dedicated training program, containing theoretical as well as practical lessons.

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ID785 Innovative approach to research-based cancer prevention participatory decision making

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Objectives: Colorectal cancer (CRC) is the most common cancer in Europe, being a global public health issue because it affects morbidity, mortality, and the efficacy of healthcare efforts to prevent and improve health, including medical costs. The ONCODIR platform aims to offer a sophisticated decision-making system that is supported by advanced artificial intelligence tools and it will be designed to address specific challenges within various use cases by utilizing dedicated models. These models will be developed based on the concept of integrating and correlating diverse types of large-scale data, with a focus on multidimensional analysis.

Methods: The primary objective of ONCODIR is to resolve these challenges by employing a comprehensive and interdisciplinary approach, involving various co-creation activities.

This will be achieved through the implementation of tools and methodologies that serve the following purposes:

- a) Risk-based stratification for citizens
- b) Integrated decision support tools for clinicians
- c) Intelligent monitoring tools for policy makers

The factors mentioned above will also contribute to the development of personalized prevention strategies, effective interventions, and implementation plans. This will be achieved by incorporating the perspectives of citizens/patients, medical experts, and policy makers through a participatory co-designing approach. Additionally, open innovation and fair data will be utilized to enhance this process, with a specific focus on measuring the impact of interventions and deriving valuable insights.

Results: The ONCODIR framework aims to enhance the transferability and replicability of healthcare systems within the European Union and potentially other regions. This will be achieved by aligning the framework with the specific requirements outlined by end users.

Conclusions: The ONCODIR project seeks to address the aforementioned challenges through conducting comprehensive research endeavors with the goal of developing innovative prevention models for colorectal cancer that are applicable to the healthcare sector.

ID799 Pruritic maculopapular rash following ropeginterferon alfa-2B administration in polycythemia vera

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Objective: Ropgeinterferon alfa-2B was recently approved in our country for the management of polycythemia vera (PV) without symptomatic splenomegaly, irrespective of treatment history. This novel pharmacological agent has been reported to induce molecular responses in PV-treated patients by reducing the JAK2V617F allele burden. However, novel drugs are also associated with side effects, including dermatological adverse reactions. Herein, we report a case of ropeginterferon alfa-2B-induced pruritic maculopapular rash in a subjects diagnosed with PV.

Methods: We report the case of a 71-year-old male patient, diagnosed in 2009 with PV, with unsatisfactory control of the disease with phlebotomy in association with hydroxyurea and/or ruxolitinib, who was started on 100 mcg of ropeginterferon alfa-2B in March 2023. At the moment of the ruxolitinib-to-ropeginterferon alfa-2B switch, the patient's complete blood count showed leukocytosis (15640 leukocytes/mm³) and erythrocytosis (hemoglobin = 16.5 g/dL; hematocrit 49.6%; 5.76 million red blood cells/mm³).

Results: After 24-48h of receiving the first dose of ropeginterferon alfa-2B, the subject developed a pruritic maculopapular rash which was unresponsive to the administration of desloratadine but which resolved spontaneously. The patient was referred to a dermatologist who established the diagnosis of drug-induced skin eruption and recommended prophylactic treatment with bilastine and methylprednisolone aceponate cream. The following drug administrations were not followed by the development of a rash, however, the patient reported generalized pruritus which had been previously well-controlled with ruxolitinib. The patient is currently undergoing ropeginterferon alfa-2B treatment (200 mcg every two weeks) in association with phlebotomy. At the last visit in our hematology clinic, his complete blood count showed 14000 leukocytes/mm³, hemoglobin = 14.6 g/dL, hematocrit 50.3%, 7.39 million red blood cells/mm³.

Conclusions: Ropgeinterferon alfa-2B, a novel drug approved for PV management in our country, can lead to the development of dermatological side effects, including pruritic maculopapular rashes. Such adverse reactions can be managed with antihistamine medication and topical steroids and do not require drug cessation.

ID800 SHIFT-HUB initiative - a Pan-European Smart Health Innovation Hub

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Objectives: SHIFT-HUB aims to develop a pan-European Smart Health Innovation Hub by bringing together stakeholders from different fields within the quadruple helix framework. This project promotes Smart Health technology and services.

Methods: This will be achieved through the utilization of its infrastructure and by establishing partnerships with EU Digital Innovation Hubs. The intention is to promote intersectoral cross-fertilization among these hubs. Similarly, the SHIFT-HUB ecosystem will facilitate the development of cultural transformation among stakeholders from diverse backgrounds, leading to a collaborative process of knowledge exchange, skill enhancement, and global transfer of expertise, thereby enhancing the overall community. It leverages a large network of developing digital technology providers, practitioners, and healthcare organizations to change the healthcare system. This movement aims to move from reactive to proactive and individualized healthcare that supports health maintenance rather than disease management.

Results: The outcomes of our activities, as well as the methodologies and tools developed within the scope of the project, will be shared with the community from the start, through large dissemination campaigns realized within the scope of the communication activities, to ensure continuous improvement through open collaboration and the adoption of our results through direct involvement of external stakeholders. The findings of our research will be disseminated orally and in writing, particularly through participation in community events and specific workshops. These measures will enable for the collection of input through open peer-review and will take into account the diversity of opinions in order to continuously develop the process and its tools for the benefit of the community.

Conclusions: Thus, the SHIFT-HUB ecosystem will allow cultural transformation among stakeholders from varied backgrounds, leading to a collaborative process of information sharing, skill growth, and global expertise transfer, enriching the community.

ID671 Hand reconstruction after a complex trauma in a young patient

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Objectives: Hand is one of the most important morpho-functional unit in someone's life. Its role is to provide all the important meanings for social, economical and family interaction. The reconstructive treatment is a challenge for every plastic surgeon.

Method: We present the case of a young patient who came to the emergency room with degloving of four fingers on the left hand.

Results: Reconstruction of the hand involves a variety of locoregional or distant axial island flaps. We perform a staged reconstruction of the four fingers with island groin flap.

Conclusion: Even if the presentation of the degloving fingers was dramatical, the postoperator result was almost natural and helped him reintegrate in society and family, because the hand is the base of the complex relationship between individual and surrounding environment. Also the main goal is to increase the quality of life.

ID680 Complex strategies for local treatment in extensive pediatric burns

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Objectives: In the past decades, extensive burn care has improved to the extent that burn victims have frequently a chance of survival. Current treatment of a severe burned patient extends beyond the preservation of life and function and the ultimate goal is to return the survivors back to their families, work field and communities. This fact is more important when dealing with children, because accurate acute treatment may prevent the need of multiple reconstruction surgeries until they reach adulthood.

Methods: We present the case of a 4-year-old female patient with 45% TBSA second and third-degree flame burns to the head, both upper, lower limbs and buttocks. She arrived 11 hours after the accident and was admitted in ICU before the transfer to Plastic Surgery and Burns Department. No airway burns were observed.

Results: Due to the extent and location of burn areas, multiple techniques of local treatment were needed. We used negative pressure wound therapy for the hands, which lead to conservative healing of the palmar aspect. The surgical approach included MEEK micrografting technique for the lower limbs, split-thickness skin grafts meshed with 1:1,5 expansion ratio for the buttocks and unexpanded grafts for the dorsal part of the hands and feet. The lesions on the forehead, forearms and arms were superficial and healed by spontaneous epithelialization under local dressings. The hands were splinted postoperatively in order to prevent retractions. The patient underwent continuous rehabilitation therapy and was discharged completely healed after 52 days.

Conclusions: Extensive burns still raise therapeutic challenges for burn teams. Each burn wound area must be dealt with individually, seeking the best approach for an optimal functional and cosmetical result. Combining different surgical and conservative therapies with early rehabilitation, adapted to the anatomical region, may ensure fast healing and functional preservation.

DI701 Botulinum toxin - current trends for future perspectives

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Objectives: Botulinum toxin type A is frequently used for aesthetic purposes, especially for facial wrinkles and for hyperhidrosis. This presentation aims to offer an overview of these procedures, both from the injectors' perspective, as well as from the patients' point of view.

Method: We conducted a retrospective study based on 2 surveys - one conducted on 20 physicians who perform botulinum toxin injections and one on more than 50 patients. We analyzed the technique, the different substances used and the results.

Results: Although we had physician of different specialities, the injection technique was similar and the results comparable. From the patient's perspective, there were some patients who had important knowledge regarding this procedure, while others could not even name the type of botulinum toxin used.

Conclusion: The increase demand for botulinum toxin has raised the number of patients who call to this procedure. Due to a competitive market, new formulas for botulinum toxin will arise and standardization of the technique will lead to predictable and safe results for our patients.

ID703 Plexiform neurofibromatosis - a debilitating pathology with a complex surgical treatment

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Objectives: Neurofibromatosis is a genetic condition which can present: café-au-lait spots, freckling, destructive osseous lesions, different skin tumours and tumours of the nervous system. In some cases, these lesions may cause important healthcare problems and should be addressed in a multidisciplinary team.

Method: We present the case of a 36 year old patient with excessive skin and subcutaneous tissue at the level of the right lower limb. The patient was diagnosed with plexiform neurofibromatosis. X-ray, MRI and CT investigations were conducted and revealed osseous lesions of the fibula and at the level of the ankle as well as bulky multiple-septa tumor with diffuse edema and abnormal tortuous vessels in the lower limb. Due to high caliber vessels, the patients had high risk of hemorrhage. Therefore, multi-staged tumor reduction surgery was performed - one at the level of the foot, 2 at the level of the calf. Further surgical interventions for tumor removal and orthopedic treatment of the ankle are scheduled.

Results: A significant improvement in gait and walking was achieved after the surgical interventions. Also, the quality of life of the patient improved.

Conclusion: The treatment for this debilitating pathology involves important risks and endurances from both patient and doctors. However, the benefits in this case outweigh the risks.

ID706 Prostatic urethral fistula - a rare cause of pneumaturia

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Introduction: Prostatic urethral fistula (PUF) is an uncommon but devastating condition following rectal or prostatic surgery. Due to the rarity and complexity of the problem, there is no standardized management. In this study, we analyzed the outcomes of various procedures for the surgical treatment of PUF in our department

Material and method: In the last decade, 3 cases with PUF underwent surgery in our Clinic. Patients' demographics, clinical presentations, prior surgical intervention, location and size of the fistula, time to fistula development, surgical procedures and time to fistula repair, were assessed from the electronic medical records.

Results: Mean age of patients was 56.8 years (interval 48-66). 2 cases developed PUF after surgery for radiotreated rectal cancer and 1 case presented a history of transurethral resection of the prostate for benign prostatic hyperplasia. Mean time to fistula development was 8.2 months (interval 1-14.2 months). Main clinical symptoms were pneumaturia, fecaluria and loss of urine through the rectal stump or perineum. Cystoscopy and rectoscopy were used to identify the fistula in all cases. Mean fistula diameter was 1.5 cm (0.5- 3 cm). Immediate urinary diversion through a cystostomy was performed in all cases. Since patients that underwent rectal surgery presented colostomy, fecal diversion was required only in 1 case. Spontaneous closure was documented in 2 cases following urinary and fecal diversion after a mean time of 6.5 months (interval 3-10 months), while suprapubic cutaneous ureterostomy was performed in 1 cases after multiple failed repair attempts.

Conclusions: Urinary and fecal diversion are required in all cases as first step of PUF repair. Depending on the size of the fistula and concomitant risk factors such as pelvic irradiation and oncological status, the outcomes may vary from complete resolution to definitive urinary and fecal diversion.

ID707 Current role of selective renal arterial embolization after kidney surgery

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Introduction: In the management of renal bleeding, embolization represents a minimally invasive (endovascular or direct puncture) and efficient strategy, particularly in a postoperative scenario. In this paper, we will describe the clinical outcomes of selective renal artery embolization after different kidney interventions.

Material and Methods: Common symptoms of patients requiring postoperative embolization were hematuria, bleeding on drain tubes, flank pain and anaemia. A CT scan is mandatory in order to identify the vessel affected and to select proper coil.

Results: Patient A.C, 46 years old, with a T1a left upper pole renal tumor who underwent enucleoresection of the formation. In day 4 p.o., the patient presented with gross haematuria and pain the left flank. CT examination detected a left renal arteriovenous fistula secondary to enucleoresection, which was treated with mechanical embolization. Patient B.S, 64 years old, with radical cystectomy + Bricker urinary diversion, investigated for left renal colic, with Grade II-III ureterohydronephrosis due to a lumbar ureteral calculus, required percutaneous nephrostomy. After 2 weeks, the patient presented with gross hematuria on the nephrostomy. CT identified active bleeding from the arcuate artery of the left lower renal pole and embolization was performed under angiographic control. Patient N.A, 52 years old, with a right staghorn calculus, underwent percutaneous nephrolithotomy. Next day after the operation, the patient had gross hematuria. Imaging revealed active bleeding adjacent to the surgical tract of the middle calyx, with contrast extravasation into the urinary tract and basal clots. Supraselective arterial embolization with endocore was performed for the middle calyceal arterial aneurysm.

Conclusions: Postoperative complications for which renal artery embolization is performed include arteriovenous fistulas, renal aneurysms, and pseudoaneurysms. Arterial angiography with embolization is the first-line method for postinterventional bleeding complications at the renal level and it allows for the resolution of complications without additional surgical interventions.

ID708 Emergency embolization in life threatening hematuria in bladder cancer patient with recent cardiovascular event

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Purpose: Intractable bladder hemorrhage (IBH) represents a life threatening urological emergency, most frequently caused by bladder cancer. In cases unfit to undergo endoscopic hemostasis or cystectomy, selective embolization of bladder arteries can be performed in order to control severe hematuria.

Our aim is to report our experience with selective embolization as a treatment for severe hematuria, refractory to conservative treatment in a patient unfit for endoscopic hemostasis.

Materials and Methods: Patient A.M. aged 67 years old, with a history of recent coronary stent placement for massive myocardial infarction under antiplatelet and anticoagulant therapy, was transferred into our department for gross hematuria refractory to conservative treatment and severe anemia due to blood loss. At admission, the hemoglobin level was 6.8 mg/dl, WBC – 11.300 and normal renal function. CT scan revealed a 8/6 cm muscle invasive bladder tumor with multiple blood clots. After conservative management with multiple transfusions, hemostatics and bladder rinsing on a large urinary catheter, the bleeding persisted. Since this patient had poor performance status and unfit for surgical treatment, bilateral supraselective embolization of vesical arteries on both sides was performed, with resolution of the hematuria after 24 hours

Results: A TUR-BT was performed at 6 weeks after embolization, describing a significant reduction of the bladder mass, with no normal tissue necrosis.

Conclusions: Super-selective angiographic embolization is safe and effective to control life threatening hematuria from bladder cancer and should be used in patients with poor performance status and unfit to undergo surgery.

ID714 Oculo-orbital complications of odontogenic sinusitis

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Objectives: Odontogenic sinusitis is a well-known but under-studied bacterial infection of the maxillary sinus that can extend to other sinuses, to the orbit, or even to the endocranium.

Material and methods: we performed an observational retrospective study on the patients with odontogenic sinusitis treated in our hospital over a five-year period. We included patients over 18 years old diagnosed with odontogenic sinusitis and ocular complications, we excluded patients with ocular complications nonrelated to dental-originated sinusitis or patients with odontogenic sinusitis without orbital-ocular complications.

Results: we examined the charts of 46 patients. From the total number of patients with oculo-orbital complications generated by odontogenic sinusitis, only 7 were women. The mean age was 33,7 with a standard deviation of 15,7 ears. The oculo-orbital complications were assessed according to the Chandler classification. The most frequent orbital complication was preseptal cellulitis followed by orbital cellulitis. All the patients were treated with antibiotic covering both anaerobic and aerobic bacteria and all the patients in our study received surgical treatment. The outcomes were favorable for all the patients in our study with clinical resolution.

Conclusion: The oculo-orbital complications of odontogenic sinusitis are severe because they can result in vision loss or other ocular sequelae. The bacteriological features of this sinusitis explain the special characteristics of this infection and can facilitate the extent of the infection to the orbit.

Prompt intervention with antibiotics covering anaerobic and aerobic bacteria and surgery addressed to the affected sinus/sinuses and the orbital pathology ensures a big success rate in the therapy of these complications.

ID723 The safety of using 8-centimeter catheters for pleural decompression—imaging analysis

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Objectives: Pneumothorax is a life-threatening condition if not treated promptly and properly. High failure rates of pleural decompression have been reported because the 5 cm catheter failed to penetrate the chest wall to the pleural cavity. With this study we have analyzed: (a) the safety of using an 8 cm catheter; (b) if pleural decompression can be achieved successfully with a 5 cm catheter; and (c) the difference in thickness between the right and left chest wall.

Materials and methods: This is a retrospective, cross-sectional and observational analysis of a group of 60 patients who presented at the emergency room of the "St. Pantelimon" Emergency Hospital and required a CT scan of the chest. The data was systematized in a database, and organized as follows: clinical aspects (age), imaging aspects (3 measurements each in the axial plane and in the coronal plane, each being divided into a left and a right part for each size of the catheter).

Results: In the case of using the 8 cm catheter, in 23% of cases it touched vital structures. Pleural decompression on the right side is very safe (97%), compared to the left side (77%). The 5 cm catheter is successful in achieving pleural decompression in only 66% of cases. The left chest wall is thinner than the right in 5% of cases. There is no correlation between patients' age and chest wall thickness.

Conclusions: The 8 cm catheter has a 100% success rate in performing pleural decompression with much greater safety in the right chest wall than in the left chest wall. The 5 cm catheter is 100% safe but only 66% successful in achieving pleural decompression. The left chest wall is thinner than the right in 5% of cases.

ID728 Failure of non-operative management of abdominal or thoracic trauma patients: can we predict it?

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Aim: The non-operative management (NOM) of abdominal or thoracic traumatic lesions has gained importance and recognition for its effectiveness in treating stable patients. The present study seeks to identify the factors contributing to unsuccessful conservative management

Materials and method: A retrospective review of our clinical experience was performed and we have searched the electronic health records for injuries caused by external forces from January 2017 to December 2021. All patients that were admitted to the surgical ward after a traumatic event were included in the review. Based on the time from Emergency Room arrival to intervention, patients were characterized as requiring urgent surgery, failed or successful NOM.

Results: Among the 340 patients in the NOM group, 32 (9.41%) experienced NOM failure. The leading cause of NOM failure in abdominal trauma were hemodynamic instability ($n = 10$, 50%), but for the thoracic trauma was deterioration of the patient's clinical condition with enlarging, or de novo, pneumothorax ($n = 13$, 59.1%). Delayed recognition of injuries, missed injuries on initial imaging studies, low Glasgow Coma Scale, and lack of protocols were observed as contributing factors.

Conclusions: Non-operative management failure in abdominal and thoracic trauma cases poses a significant challenge within the emergency hospital setting. While conservative management remains a valuable approach for stable injuries, successful outcomes require careful patient selection and vigilant monitoring to promptly detect signs of deterioration. Our findings emphasize the importance of early recognition of unstable injuries and highlight the need for further research to identify reliable predictors of non-operative management failure. A multidisciplinary approach, incorporating expertise from trauma surgeons, radiologists, and emergency physicians, is crucial in achieving optimal patient outcomes in these challenging cases. Protocols help ensure consistent and evidence-based care, improve patient outcomes, and streamline the decision-making process for healthcare providers.

ID731 Ingested foreign body causing transverse colon perforation - a case report

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Introduction: The accidental ingestion of foreign bodies represents a fairly common emergency. In 1% of the cases the foreign body can cause perforation of the digestive tract with secondary peritonitis translated clinically as acute abdomen. This is more frequent if the foreign body is elongated and sharp.

Case report: In October 2020, a 30-year-old man presents at the emergency room of University Emergency Hospital of Bucharest, with left lower abdominal pain which started a week before presentation and aggravated ever since. The clinical examination reveals tenderness in the left flank and left iliac fossa without any objective signs of peritonitis. The abdominal CT scan reveals: a linary hypodense image with high density which was 27/2mm located in the lower left abdomen in contact with the small intestine (ileon) and the anterior abdominal wall. The presumptive diagnosis on CT was the presence of a foreign body. The patient underwent emergency surgery. We discovered a perforated transverse colon due to a foreign body (wire). We practiced the extraction of the foreign body with suturing the perforation and epiploonoplasty. The patient was dismissed cured.

Conclusions: The accidental ingestion of foreign bodies is a pathology that affects mostly the extreme ages (children and the elderly). It is also frequent that the foreign body is discovered intraoperatively in a segment of the small intestine rather than the colon. The clinical presentation of an ingested foreign body can be very diverse spanning from asymptomatic to acute abdomen, all that can develop within a week since the ingestion.

ID736 Cutaneous melanoma – raising awareness

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The primary treatment for most patients with cutaneous malignancies today remains surgical. Although care is increasingly multidisciplinary, surgeons play a central role in the management of this collective group of malignancies. The importance of a proper surgical and non-surgical treatment for malignant melanoma is well known within our peers. An incorrect approach may result in serious consequences for the patients such as permanent disability or exitus.

Objectives: Bearing that in mind, this presentation has the purpose to remind of the latest treatment guidelines in order to maintain the best results possible when it comes to treating patients with malignant melanoma.

Material and Methods: After we reviewed the latest articles and guidelines and from our personal experience, we put together a short, systematic presentation that should be of use to any surgeon with or without experience. Also, surgeons should be able to see the treatment of patients with malignant melanoma as a whole, meaning that the non-surgical management has to be reviewed as well.

Results: Being up to date with the latest information about the treatment of patients with malignant melanoma has favorable results for both the patient and the doctor, as well as for the medical facility.

Conclusion: This presentation should provide the information needed in order to properly treat patients with malignant melanoma and thus improve the results.

ID739 Modern treatment strategies for multiple thoracic aortic aneurysms in frail patients - A case presentation

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Background: Aneurysms represent the second most frequent disease of the aorta. Concomitant aneurysms of the ascending aorta and descending thoracic aorta (DTA) represent a rare association and require multidisciplinary approach especially in frail patients. The treatment of DTA aneurysms has been reorientated with the development of TEVAR-Thoracic endovascular aortic repair, but the proximal lesions, present specific challenges due to the involvement of the supra-aortic branches and the tight inner curve.

Methods: We present the case of a 60-years-old female patient with multiple cardiovascular risk factors admitted with dyspnea and fatigue. Imagistic evaluation (TTE and CTA) revealed an ascending aorta aneurysm (54 mm) and a DTA aneurysm (55 mm), 10 mm caudal from the left subclavian artery(LSA). The multidisciplinary team decided in favor of a double-stage hybrid treatment. We firstly managed the DTA aneurysm using 2 Valiant Thoracic Endografts (46x200/42x100 mm). In order to achieve a safe proximal landing zone, we had to sacrifice the origin of the LSA. Thus, we performed a left carotid artery to LSA bypass. Subsequently, we performed ascending aorta replacement with a GELWEAVE prosthesis no.30. The postoperative evolution was favourable and one month follow-up CTA revealed permeable aortic endografts.

Results: With the innovations made in the endovascular techniques over time, less invasive strategies with lower physiological impact and operative stress are available for high-surgical-risk patients. Regarding the DTA aneurysms, from non-randomized comparisons and meta-analyses, early mortality is lower after TEVAR than open surgery.

Conclusions: In aneurysmal disease, the main objective of the treatment is to prevent the natural progression to aortic dissection or even aortic rupture. A hybrid approach with surgical repair of the proximal lesion and endovascular repair of the distal one, represents a modern option, being safe, less traumatic, offering a complete repair and allowing a rapid recovery and socio-professional reintegration.

ID740 Rare cause of upper gastrointestinal bleeding

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Introduction: Cases of upper as well as lower diverticular haemorrhage account for a significant percentage of the total number of cases managed in the General Surgery Departments of Romanian emergency hospitals. Identification of the cause of these haemorrhages can be predominantly facilitated by upper or lower GI endoscopic evaluations alone, but we encounter a small proportion of cases for which the workup panel must be extended for diagnosis.

Materials and methods: We present the case of a 70-year-old female patient with a pathological history of chronic kidney disease on hemodialysis, colonic diverticulosis, erosive duodenitis, chronic gastritis, presenting repeatedly to the emergency room for episodes of upper GI bleeding externalized by melena and severe anemia.

Results: We mention that during 8 years the patient had annual presentations in our unit, and in the last year monthly for the same symptoms. During each hospitalization upper digestive endoscopy was performed diagnosing a degree of gastritis, but never active hemorrhage or with recent stigmata justifying the evolution of the case. Colonoscopies also did not detect a cause of bleeding. Computer tomography identified a tumor located in the right iliac fossa that appeared to belong to the small bowel. Intraoperatively there was a tumor formation in the terminal ileum with extraluminal growth with active bleeding. Segmental enterectomy with manual entero-entero-anastomosis was performed. During the 6 days preoperatively the patient required transfusion of 12 units of erythrocyte concentrate, on the day of surgery she had a hemoglobin of 5.7g/dl. Postoperatively the patient had a favorable recovery with resumption of the bowel movement 48 hours postoperatively, without signs of bleeding.

Conclusions: Workup assessment of cases with GI bleeding can be complex and standard procedures may not be sufficient to identify the cause, especially in cases with frequent recurrent course. However, an increasingly common investigation such as computed tomography may be sufficient for diagnosis.

ID743 Surprising origin of a colonic tumor

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Introduction: Cases of colon tumours, are becoming more common and the diagnostic process more accessible. Recurrences are defined by the appearance of symptoms less than 5 years later. So a recurrence at 17 years from primary cancer is an extreme rarity.

Materials and methods: We present the case of a 55-year-old female patient with a pathological history of ovarian neoplasm operated, chemo- and radiotreated 18 years prior to presentation, thyroidectomy and depressive syndrome, presenting to our clinic for pain in the left hypochondrium, lack of bowel movement and sclerotegumentary pallor.

Results: Biologically, moderate anemia and mild inflammatory syndrome were noted. Colonoscopically, a stenosing splenic angle tumor was identified, which could not be passed, with areas of necrosis. Tomographically, the same splenic angle tumor was observed with a length of 8.6 cm and adenopathy in the left renal hilum. Intraoperatively there was a bulky splenic angle tumor fixed at the level of the omental bursa, dilatation of the colonic frame upstream and collapse downstream, without other lesions. Left segmental colectomy with manual T-T colo-recto-anastomosis was performed. Postoperatively the patient had a favorable recovery with resumption of bowel movement 48 hours postoperatively and discharge on postoperative day 4. Anatomopathological examination identified colonic metastasis of serous carcinoma of ovarian origin. Postoperatively the patient underwent chemotherapy including Bevacizumab, Avastin and Paclitaxel. The patient has remained cancer free to this day.

Conclusions: Recurrence of cancer at 18 years of age is a very rare occurrence and this will certainly influence treatment and medical attitude.

ID750 The Effect of Neoadjuvant Therapy for the Prognostic of the Patients with Retroperitoneal Sarcomas

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Retroperitoneal sarcomas are rare neoplasias of mesenchymal origin, characterized by an important histopathologic variety (more than 100 subtypes) and biological aggressiveness. Currently, the radicalness of the surgery is recognized as the only positive predictor for the overall survival of the patients. However, the role of adjuvant and neoadjuvant therapies is still uncertain.

The aim of the current study was to evaluate the impact of neoadjuvant therapy on the surgical complexity, results and patient overall prognostic.

Patients and methods: We conducted a retrospective study on a group of 142 operated patients with various histopathologic types of retroperitoneal tumors, including sarcomas. Data from the patient clinical charts, with descriptions of the delivered types of neoadjuvant and adjuvant regimens, intraoperative findings, histopathologic specimen analysis and follow-up records were included into the statistical analysis in order to evaluate whether neoadjuvant therapy has any impact on the surgical results and patients' overall survival.

Results: Retroperitoneal sarcomas represented 37.5% of all the retroperitoneal tumor cases and 61.8% of the malignant tumors. Only 8.8% of the patients received neoadjuvant therapy. Neoadjuvant therapy was not associated to higher respectability rates. Instead, it was associated to a greater surgical complexity and higher morbidity rates. Perioperative complications were a negative predictor for patients' survival.

Conclusions: In our study, neoadjuvant therapy did not prove to be an independent negative prognostic factor. However, as it was associated to higher morbidity rates, it indirectly impacted on patient survival. Therefore, our findings, together with the results of other studies would appear as not encouraging for the use of neoadjuvant therapy for retroperitoneal sarcomas. However, given the rarity and heterogeneity of retroperitoneal tumors and the limitations of the studies on small cohorts, no conclusions can yet be drawn regarding the role of neoadjuvant therapies in the management of such neoplasias.

ID751 The Length of the Operation - Does it Matter for the Prognostic of the Retroperitoneal Tumor Patients?

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The radicalness of the surgical intervention represents the only positive predictor for the overall survival of the patients with retroperitoneal tumors. However, many controversies still persist regarding the surgical management of the retroperitoneal neoplasias, some in concern with the extent of the radical surgery and other intraoperative surgically controllable factors that might be of prognostic significance. In the present study we **aimed** to evaluate whether the length of the surgical intervention holds statistical significance for the prognostic of the operated retroperitoneal tumors patients.

Patients and methods: We conducted a retrospective study on a group of 142 patients with primary and secondary retroperitoneal neoplasias that were operated in the Surgical Clinic over a period of 16 years. Multiple data concerning the patient, tumor, operative and postoperative descriptions were included into a thorough statistical analysis in order to investigate the significance of the length of the operation for the patients' prognostic.

Results: The radicalness of the surgery was the major positive predictor for the overall survival of the patients. The mean duration of the operation was of 120.26 ± 50.65 minutes. Longer operations (more than 120 minutes) were significantly associated to radical surgical interventions and higher 5-year survival rates when compared to shorter surgical interventions. Interestingly, longer operations were not statistically associated instead to higher intraoperative and postoperative morbidity rates. At the same time, a greater tumor dimension was not associated to longer operations.

Conclusions: The complexity of the surgical approach of the retroperitoneal tumors that often involve important nearby structures appears to be not compatible with a short operation. The current study highlights that in the case of the retroperitoneal tumors, the surgeon should not sacrifice the fundamental target of achieving a radical resection of the tumor for the sake of limiting the operative length and degree of patient trauma.

ID753 The Significance of Retroperitoneal Tumor Visceral Involvement

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Retroperitoneal tumors represent a heterogeneous group of uncommon neoplasias, that usually require a multidisciplinary therapeutic approach. Retroperitoneal neoplasias frequently develop as very large masses that involve major blood vessels and organs, being diagnosed in advanced stages, when the surgical treatment is characterized by a high degree of complexity. The present study **aimed** to evaluate the significance of the visceral involvement by the retroperitoneal tumors for the results of the surgery and patient prognostic.

Patients and methods: The study was achieved on a group of 142 patients with retroperitoneal tumors operated on in the Surgical Clinic over a period of 16 years. Multiple parameters related to the patient, preoperative investigations, type of performed surgery, intraoperative and histopathologic descriptions, postoperative evolution were entered into an extended retrospective statistical analysis to evaluate the significance of tumor visceral involvement for patient prognostic.

Results: Tumor visceral involvement was intraoperatively found in 85.7% of the cases, while vascular involvement in 78.6% of the cases. However, organ resections were performed in only 19.6% of the cases. Apparent intraoperative tumor visceral involvement was significantly associated to non-radical interventions. However, the tumor visceral involvement was histopathologically confirmed in only a small percentage of the cases. Overall, in the survival analysis, the intraoperative impression of tumor visceral involvement and tumor dimension were not found to be significant prognostic factors.

Conclusions: The finding of the current study that tumor organ involvement is histopathologically confirmed in a small percent of cases could be of great importance for the approach of such neoplasias. Therefore, more aggressive surgery, such as compartment surgery for retroperitoneal tumors could become unjustified, associating instead higher morbidity rates. At the same time, the macroscopic impression of visceral involvement by the large retroperitoneal masses should not discourage the surgeon in the approach towards radical surgery.

ID755 Major trauma of the upper limb in plastic surgery – therapeutic and surgical management

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Objectives: Upper limb trauma is a common presentation in plastic surgery, encompassing a wide spectrum of injuries that may result in significant functional impairment and aesthetic deformities. Prompt and effective management is crucial to achieve optimal functional and cosmetic outcomes. This abstract aims to investigate the presentation, management approaches, and functional outcomes of upper limb trauma cases in plastic surgery.

Materials and Methods: A review of medical records was conducted for patients presenting with upper limb trauma in the plastic surgery department of the University Emergency Hospital of Bucharest. A series of studies were reviewed in order to give a clear picture of the current state of upper limb trauma management. Data was collected on patient demographics, underlying conditions, mechanisms of injury, time from presentation to treatment initiation, performed surgical interventions, and short-term postoperative outcomes.

Results: Causes of trauma were falls, motor vehicle accidents and sports-related injuries. Soft tissue injuries, including amputations of digits and limbs, lacerations and avulsions of muscles, tendons and neuro-vascular structures were encountered. Surgical interventions were required in most of the cases, while some patients also needed admission in the intensive care unit for stabilisation and advanced trauma life support. Soft tissue injuries were managed primarily with wound debridement and primary closure or tissue reconstruction by means of tenorrhaphy, neuroorrhaphy or vascular anastomoses with loupes or the surgical microscope.

Conclusion: Upper limb trauma in plastic surgery presents diverse challenges, demanding tailored treatment approaches to optimize functional and aesthetic outcomes. Prompt surgical intervention, guided by comprehensive evaluation and appropriate imaging, can result in successful functional recovery. Understanding the presentation and management of such cases facilitates better outcomes, highlighting the importance of continued research and advancements in the field of plastic surgery to enhance patient care.

ID759 Isthmocele - an underdiagnosed iatrogenic pathology?

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Isthmocele, or uterine niche, is a myometrial defect of the anterior wall of the uterine isthmus, where the scar of the previous c-section was formed. Because of the rising incidence of births by c-section, a proportional increase of patients presenting with isthmocele was observed. The most common risk factors involved are those regarding the surgical technique (the location of the scar, the unequal thickness of the margins of the suture or the type of suture), as well as the factors regarding the patient (the number of previous c-sections and the presence of retroverted uterus). The gynecological complications most frequently seen in patients with isthmocele is the development of menometrorrhagia, chronic pelvic pain and secondary infertility. Regarding future pregnancies, an increased risk of uterine-scar pregnancy, abnormal adherence of the placenta or uterine rupture was demonstrated.

This paper represents the analysis of data obtained after evaluating 66 patients by transvaginal ultrasound 6 weeks after c-section performed in "Saint Pantelimon" Hospital, Bucharest, in 2022. The studied parameters were the age of the patient, the number of previous births by c-section or history of myomectomy, the type of suture used and the presence of retroverted uterus.

Among the 66 patients, 34 of them developed an isthmocele, while 14 of them presented with a defect > 5 mm. The deepest niches were observed in patients with retroverted uterus or uterus in intermediate position. Secondary, the type of suture associated with most cases of isthmocele was one-layered interrupted suture, while the ones associated with less frequent development of a niche were double-layered or one-layered with separate sutures.

Judging by the increasing number of c-sections, further studies are needed to establish the type of suture that minimizes the risk of developing an isthmocele.

ID760 The breast during pregnancy and lactation – clinical, imaging and surgical particularities

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Introduction: Both during pregnancy and during lactation, the breasts go through important physiological changes, making imaging interpretation difficult. Most often, the patient presents with a newly appeared, enlarged or painful palpable formation in the breast.

Material and Methods: We prospectively studied and retrospectively reviewed the imaging files of 120 patients who presented during pregnancy (58) or during the breastfeeding period (62) with breast tenderness and/or objective breast complaints.

Results: During pregnancy we detected: simple cystic formations (27) or complex (14 cases), bulky fibroadenomas (8), intramammary nodes (5), breast cancer (4 cases), lactation adenoma (one case). Complementary imaging investigations were performed in 18 patients (MRI in 8 cases and mammography in 10 cases). During lactation we studied 33 cases with galactoceles, 21 simple bulky or complex cysts, 7 mastitis, 2 breast abscesses, 6 fibroadenomas, 2 breast cancers, one phyllodes tumor, one case of breast tuberculosis. In addition to the clinical and ultrasound diagnostic approach, four patients were examined by MRI and eleven underwent mammography. In patients with BI-RADS 3- complicated cysts – puncture or reassessment at short intervals (one to two months) is a prudent approach. In any solid tumor a re-evaluation at short interval (one-two months) or mammography (microcalcifications) or biopsy are correct clinical options.

Conclusions: During pregnancy, the breast is diffusely hypoechoic (due to the marked development of the glandular tissue), and during breastfeeding it becomes diffusely hyperechoic (due to the increase in vascularity and the dilation of the ducts). Due to the peculiarities of pregnancy and breastfeeding, we conclude that the ultrasound examination is the method of choice in the imaging diagnosis of this period. Breast ultrasound screening in early pregnancy allows for good and useful mapping of the breast.

ID770 Abdominal parietal cystic tumor - a rare complication of a multiple recurrent incisional hernia

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Introduction: Complications following open or laparoscopic approaches to ventral or incisional hernia repair with mesh show great variability in severity. Serious long-term complications include chronic pain, chronic suppuration, and enterocutaneous fistulae due to the presence of the mesh. Complications such as these, require revisional surgery for resolution.

Material and method: We present the case of a 54-year-old patient, with multiple recurrent incisional hernias, with the last surgical intervention performed for this pathology 18 months before admission in our clinic in September 2022. The patient was hospitalized for a voluminous inferior abdominal quadrant parietal tumor, which progressively increased in size after the mentioned surgical intervention, with cutaneous ulceration and moderate active bleeding. On admission, laboratory tests showed marked leukocytosis, hyperglycemia, increased cytolytic enzymes and inflammatory syndrome. Abdominal computed tomography revealed a large tumor (255/206/162 mm) in the inferior abdominal quadrant subcutaneous fat, with multiple septa creating a multiloculated aspect, with fluid and hematic densities, with distinct margins. Emergency surgery was performed consisting of the excision of the tumor formation. Postoperative evolution was uneventful.

Results: Pathological examination showed an acute giant cell inflammatory reaction to a foreign body, with a tendency to abscess and cystic transformation with extensive sclerosis, hyalinization and hemorrhage. The content of the cystic cavity was represented by an amorphous mass of fibrin and blood clots.

Conclusions: The surgical approach to ventral or incisional hernia repair has continuously and significantly evolved. Although the current trend is to use reinforcing mesh to repair any parietal defect and minimize the risk of recurrence, the perfect surgical intervention for hernia has not yet been defined, and postoperative complications may also occur in this case. Time and experience will tell how to have the best possible surgical approach for hernia repair.

ID776 Uveal melanoma with atypical risk factor

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Introduction: Uveal melanoma is a rare disorder, yet it remains the most common malignant ocular disease. This study aims to investigate a case of uveal melanoma with an atypical risk factor: prolonged exposure to computer screens. The prevalence of uveal melanoma and its known risk factors, including atypical and common nevi, welding, chronic ultraviolet light exposure, and light skin and eye color, are discussed.

Materials and Methods: The patient under study is a 60-year-old female accountant who had a prolonged history of professional exposure to computer screens (8 hours a day for 40 years). She presented with diminishing visual acuity and visual field defects, without any personal or family history of disease and no exposure to classically described risk factors. Imaging investigations, including cerebral MRI, revealed an intraocular mass (13/15/10 mm) in the right eye, raising the suspicion of choroidal melanoma.

Results: During the ophthalmological examination of the right eye, specific features were noted, such as visual acuity of 0.2 without correction, iridodialysis, retracted iris near 4-7 o'clock, and a pigmented mass sprouting in the pupillary area, obstructing the nasal half of the visual field. Fundus examination indicated that the retina was attached in the temporal half. The definitive diagnosis, established through histopathological examination of the excised piece from the enucleation, confirmed pigmented malignant melanoma of the uveal tract with mixed epithelioid and fusiform morphology.

Conclusion: This case of uveal melanoma with an atypical risk factor (prolonged exposure to computer screens) exhibits several particularities, including its rarity, presentation in a locally advanced form, and association with a risk factor not extensively discussed in the specialized literature. Further research efforts are warranted to better define risk factors and develop early diagnostic methods for uveal melanoma.

ID784 Therapeutic difficulties in management of defects in medial canthal region following tumor excision

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Introduction: Addressing the medial canthus reconstruction after the excision of cutaneous malignancy poses considerable challenges, not just in terms of cosmetic considerations but also due to the intricate anatomy of the medial canthal region. Additionally, its significance in relation to vision and eyelid function adds to the complexity of the procedure.

Following tumor excision, the resulting defect can be closed using diverse approaches, which are selected based on factors such as the size of the defect, its location, depth, and the patient's preferences. These closure methods encompass laissez-faire techniques, full-thickness skin grafting, and several options involving local flaps.

Material and Methods: A study was conducted to address a series of medial canthal defects resulting from the surgical excision of tumor. The reconstruction was performed using local or loco-regional flaps as part of the surgical approach. The chosen reconstructive methods were based on the individual characteristics of each defect to achieve optimal outcomes for the patients.

Results: The aesthetic and functional results of the reconstruction were deemed highly satisfactory in all cases.

All of the flaps employed in the reconstruction were successful, and there were no instances of total or partial flap loss.

Conclusion: The preferred method for addressing medial canthal defects is through the use of local or loco-regional flaps. In situations where the defects are larger and cannot be adequately addressed by a single flap, a strategic combination of flaps can be employed to effectively close the defects, resulting in favorable aesthetic and functional outcomes.

ID787 Therapeutic difficulties in management of defects in medial canthal region following tumor excision

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Introduction: Carpal tunnel syndrome (CTS) is a common and debilitating condition that poses a significant burden on individuals and society, impacting hand function, and thus quality of life. Prevalence varies among demographics, influenced by factors like age, gender, and especially occupation, necessitating a deeper understanding for effective management and prevention strategies.

Objective: In this study, the correlation between various occupational factors and disease prevalence and progression is further examined, with subsequent analysis focusing on diagnosis and management approaches. Several occupational risk factors were assessed based on current literature. An additional analysis was performed to determine the necessity of surgical therapy and to assess the choice of anesthesia.

Methods: This study included a cohort of individuals of working age with diagnosed CTS evaluated via baseline and periodic follow-up electrodiagnostic testing (EDS), with the demographic distribution being homogeneous. During the initial assessment, a comprehensive questionnaire was given to evaluate work history, psychosocial factors, medical history, musculoskeletal symptoms, and work disability. Occupation was categorized using the Standard Occupational Classification 2010 (SOC2010) and the chosen treatment strategies were divided into two groups based on whether surgery was considered as the endpoint or not.

Results: Our analysis shows that the occupational factors of our cohort do mirror the results we gathered from the evaluated literature, with office workers and administrative personnel having the highest risk for developing CTS, followed by factory and construction workers. The majority of patients necessitated surgical intervention, and post-operative care significantly contributed to restoring the biomechanical function of the hand. The preference for local anesthesia with lidocaine hydrochloride over a complete brachial plexus block had a positive impact on both the patients' quality of life and their hospitalization duration.

Conclusion: With the decline of traditional heavy industries and their associated occupational risks, new patterns of occupational associations may arise, leading to unexpected shifts in therapy decisions that could potentially offer faster and improved results in the management of CTS.

THE WINNERS OF THE YOUNG INVESTIGATORS' AWARD COMPETITION

YOUNG INVESTIGATORS' AWARD – MEDICAL SPECIALITIES

ID688 Systemic inflammation, assessed by C-reactive protein, in patients with acute myocardial infarction can predict left ventricular remodelling, evaluated with myocardial work parameters

Danet Ruxandra, Rimbis Roxana, Bratu Vladimir, Schiopu Alexandru, Vinereanu Dragos

YOUNG INVESTIGATORS' AWARD – SURGICAL SPECIALITIES

ID722 The safety of using 8-centimeter catheters for pleural decompression–imaging analysis

Rusin Alexandru, Plescan Denisa, Carap Alexandru-Constantin, Socea Bogdan, Constantin Vlad Denis

YOUNG INVESTIGATORS' AWARD – PRECLINICAL SPECIALITIES

ID772 Unraveling the role of miRNAs in liver to pancreas transdifferentiation

Ekaterini Linioudaki, Ioana Raluca Florea, Andrei Sorop, Veronica Madalina Ilie, Marton Fogarasi, Irit Meivar-Levy, Simona Olimpia Dima, Irinel Popescu, Sarah Ferber, Daniela Lixandru

ID638 The influence of upper limb dysfunction/disability on quality of life in patients with subacute post-lesional cervical spinal cord injury

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Objectives: Cervical spinal cord injuries are cause of disability, and upper limb dysfunction can contribute to impaired quality of life. Therefore, we investigated this issue in the present study.

Method: We evaluated 15 patients at the NeuroMuscular Rehabilitation Clinic of the Teaching Emergency Hospital "Bagdasar Arseni" with AIS, MRC, Penn, Ashworth, QoL, ARAT, Frankel scales.

Results: Out of the 15 patients, 3 (20%) were female and 12 (80%) were male, with ages from 70 to 85 years. The average duration of physical therapy was similar for the patients. The average muscle strength increased at discharge compared to admission for all patients. One patient showed a reduction in spasticity at discharge. The average AIS score for female patients increased from 32.33 (at admission) to 34.33 (at discharge). The average AIS score for male patients increased from 27.25 (at admission) to 33.4 (on the day of discharge). The number of patients with grade D increased to 3 at discharge (from 2), while patients with Frankel grade C decreased from 7 (at admission) to 6 (at discharge). The influences of recovery were beneficial only for the studied patients, with an average increase in quality of life from 81.08 to 91.58.

Conclusions: The effectiveness of motor gain is proportional to the improvement in patients' quality of life (Pearson = 0.20, $F < 0.001$). The ability to grasp influenced patients' quality of life (Pearson = 0.11, F test = 0.001). The ability to perform gross manual movements was inversely proportional to patients' quality of life (Pearson = -0.08, $F < 0.001$). The findings highlight the importance of fine motor skills and hand stability for quality of life, compared to the limited significance of gross manual abilities.

ID644 Comparative analysis of ultraviolet-induced red fluorescence of facial follicles in healthcare providers in the context of medical face mask usage during the COVID-19 pandemic in Romania-a cross-sectional study

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Objectives: The objective of this study was the comparative assessment of ultraviolet-induced red fluorescence of follicles (UVRFs) in healthcare providers (HCPs) during the state of alert from the COVID-19 pandemic in Romania.

Method: After favorable ethical approval was obtained, between November 2021-January 2022 we performed a cross-sectional study involving HCPs, using multispectral photography. Photographs using ultraviolet A (UVA) light were analyzed using the Image J software. We performed two standardized 8x8 mm selections, one from the glabella, one from the cheek and chin junction region for manual quantification and measurement of the UVRFs. We chose the cheek and chin junction area because it is usually covered by the medical face mask. We chose the glabella as a control region.

Results: We included 11 subjects, aged 31.45 (± 3.85) years, male: female ratio was 2:9. We included 9 subjects with mild to severe acne and 2 healthy controls. A total of 157 UVRFs were analyzed from the glabella region, with mean size of 0.85 mm (± 0.26) and 107 UVRFs, from the cheek and chin junction, with mean size of 0.80 mm (± 0.25). The percentage of area covered by the UVRFs from the glabella was higher in most participants, 8(73%), equal in 2(18%) and lower in 1(9%).

Conclusions: The medical face mask was a piece of personal protective equipment commonly used during the COVID-19 pandemic, leading to dermatologic conditions, among which acne was frequent. Alterations in the local microbiota have been hypothesized as underlying mechanisms for acne development. UVRFs visualization is possible because of the porphyrins produced by local bacteria. Our results are aligned with previous pre-pandemic studies revealing that the forehead area is more abundant in UVRFs than the cheek region.

This pattern was preserved despite medical face mask usage, suggesting that bacterial colonization may not be significantly impacted by the mask presence.

ID656 A new approach for the diagnosis of subclinical hepatic encephalopathy

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Background: Subclinical hepatic encephalopathy (SHE), the mildest form of hepatic encephalopathy, comprises discrete cognitive deficits that cannot be detected on a routine clinical examination. SHE is associated with poor driving performance and impaired job performance; however, its diagnosis remains a challenge and it is often overlooked by clinicians.

Objectives: To diagnose SHE by using the EncephalApp Stroop test, a novel assessment tool which can be used on tablets and smartphones.

Material and methods: We performed an observational study in which 122 adult cirrhotic patients awaiting liver transplantation were evaluated for SHE by using EncephalApp Stroop test on an Apple iPad Mini 4. All patients had a normal neurological examination and no overt cognitive deficits. The current age-related cut-offs for SHE diagnosis were used (≥ 145 seconds for patients < 45 years, and > 190 seconds for patients ≥ 45 years). Statistical analysis was performed with MedCalc statistical software version 18.9.

Results: Mean age of the patients was 52 ± 10 years-old (range: 28-74 years-old). There were 66% males ($n=81$). Mean Stroop result was 170 ± 37.8 seconds (range: 111.2 – 320.8 seconds). Mean MELD score was 16 ± 2 points and mean Child-Pugh score was 8 ± 2 points. There was a clear direct correlation between Stroop results and age ($R=0.55$, $p<0.005$), and a weaker correlation between Stroop results and liver disease severity as measured by the MELD score ($R=0.17$, $p=0.04$). Based on the currently validated cut-offs, 68% of the patients < 45 years and 38% of the patients ≥ 45 years were diagnosed as having SHE. In total, 44% of the cirrhotic patients were diagnosed with SHE.

Conclusions: EncephalApp Stroop test is useful for the rapid assessment of SHE in clinical practice. Given its moderately-strong correlation with age, we suggest that more age-related cut-offs (for different age groups) should be validated.

ID688 Systemic inflammation, assessed by C-reactive protein, in patients with acute myocardial infarction can predict left ventricular remodeling, evaluated with myocardial work parameters

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Background: Left ventricular (LV) remodeling after acute myocardial infarction (AMI) is an important predictor of heart failure (HF). Systemic inflammatory response in the acute phase of AMI is of particular interest, while the relation to the remodeling process is still under debate. New imaging techniques, as myocardial work (MW), can detect myocardial remodeling before decrease of global LVEF. However, there is insufficient data regarding MW in AMI patients, and its relation to the inflammatory process.

Methods: We assessed 57 patients (53 ± 9 years, 45 men, 64% smokers, 59% hypertensive, 54% with type 2 diabetes) with AMI, by clinical, 2D echo, and STE. Biomarkers were evaluated within the first 24 hours from admission: hsTnI and C-reactive protein. A second was performed after 6-8 weeks. At both visits, global longitudinal strain (GLS) and MW by 2DSTE were measured, on top of conventional echo parameters: global work index (GWI), global constructive work (GCW), global wasted work (GWW), global work efficiency (GWE).

Results: At baseline, myocardial necrosis by hsTnI significantly correlated with GLS ($r=0.44$, $p=0.001$) and MW (GWI: $r=-0.44$, $p=0.001$; GCW: $r=-0.40$, $p=0.002$), but not with LVEF. However, systemic inflammation by CRP did not correlate with LVEF or any of the STE parameters. Interestingly, systemic inflammation by CRP significantly correlated with changes of MW between the two visits: for GWE $r=-0.53$, $p<0.001$; and for GWW $r=0.48$, $p<0.001$ (Figure 2). A CRP level > 28 mg/l was able to predict decrease of GWE from baseline to visit 2.

Conclusions: Magnitude of necrosis, expressed by hsTnI does not correlate with LVEF. CRP level in the acute phase of AMI correlates with myocardial work changes, as an early marker of negative LV remodeling. This can help identify and follow closely patients at risk for developing heart failure after acute myocardial infarction.

ID745 Clinical Muscle Evaluation in a Series of Primary Osteoporosis Patients from Romania

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Aim: To understand the significance and associations of several muscle strength and physical performance tests, including hand grip strength (HGS) and chair stand test (CST), in postmenopausal osteoporosis.

Methods: A consecutive series of female patients were recruited at the C. I. Parhon National Institute of Endocrinology. All patients underwent spine X-ray for vertebral fracture assessment and were evaluated through DEXA scans for determination of bone mineral density (BMD), T-score and trabecular bone score (TBS). Patients were classified as primary OP without fracture or severe primary osteoporosis OP (sOP, with fragility fractures). The cut-off for HGS followed EWGSOP2 and that for CST was considered at 11.4, 12.6 and 14.8 sec for ages < 70, 70-79, 80-90 years, respectively. Statistical analysis involved association by logistic regression and ANOVA.

Results: In total 130 women were recruited, aged 66.2 ± 1.0 years old (mean \pm SEM). When patients were classified according to HGS and CST results (both tests normal, 1 test abnormal, both tests abnormal, respectively), patients with only one abnormal test associated with sOP with $P < 0.023$, OR 3.95, 95 % CI [1.2-13], while those with both altered tests with $P < 0.0071$, OR 5.9, 95% CI [1.6-21.4].

Conclusions: Although HGS and CST are considered to be interchangeable in terms of screening for sarcopenia, these data indicate that HGS and CST are not of equal significance in the clinical evaluation of OP patients. HGS measures strength and CST evaluates physical performance, which means both may be useful, but with cumulative significance in evaluation of clinical outcomes in OP patients.

ID749 Can rTMS (repetitive Transcranial Magnetic Stimulation) improve depressive disorder and further the quality of life after ischemic stroke? – A case study

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Objective: Our aim is to contribute towards obtaining an improved psychological status and quality of life, using rTMS-therapy for a patient with depressive disorder secondary to a chronic ischemic stroke.

Method: US, 64 y.o. female, admitted in Geriatrics-Department "Sf. Luca" Chronic Diseases Hospital-Bucharest, presented with severe depressive disorder and residual left hemiparesis post repeated ischemic stroke in the right-ICA territory (2021), for motor recovery and comprehensive geriatric assessment.

Results: We followed the patient's evolution at 6 months, first hospitalization was in January 2023(T0), the patient presenting at the geronto-psychological examination severe anxiety-depressive disorder (Geriatric-Depression-Scale, GDS score=13/15p) in treatment (Tianeptine 12,5mg,3cp/day), without cognitive impairment (Mini-Mental-State-Examination-MMSE=28/30p, Clock-Drawing-Test CDT=8/10p). The patient is dependent, having on Activities of Daily-Life-Scale (ADL)=3/6p, and Instrumental-Activities-of-Daily-Life(IADL)=3/8p and modified Rankin-Scale (mRS)=4/6p. A second admission in June 2023(T1), showed a minor depression improvement, GDS=11/15p and a stationary functional capacity. Due to the poor response to antidepressive treatment, we decided to adjust the medication to SSRI, Escitalopram 10mg, 1cp/day, and to introduce a 10 day-rTMS therapy(T2) over the left dorso-lateral-prefrontal-cortex (DLPFC), 10 Hz frequency, 21-22min session/day. First evaluation, prior to rTMS therapy, the patient presented a severe depression-GDS=11/15p, and a neither good or bad quality of life measured by WHOQOL-BREF-Scale, especially on physical and psychological domains (31p, respective 44p). The next evaluations, after 5 rTMS sessions(T2) and right after rTMS-sessions(T3), showed improvement on GDS=4/15p, and on physical and psychological domain (38p, respective 69p). The follow-up evaluation(T4) we verified the therapy's residual effect 3weeks after applying rTMS, emphasizing a minor modified GDS-score=6/15p, and improvement in psychological domain (63p), suggesting that the depression disorder improves by increasing the number of rTMS sessions (negative statistical correlation rTMS sessions - GDS-score: $r = -0.969$, $p < 0.5$).

Conclusions: rTMS has proven, in this case, as described in other studies, to be well tolerated, with positive results on depressive disorder and as well on the patient's quality of life. The positive results of rTMS stimulation on this patient will be used to project a clinical study on a larger group-of-patients, in order to prove the benefits of rTMS on post stroke depression.

SURGICAL SPECIALITIES

ID722 The learning curve of the FAST (Focused Assessment with Sonography for Trauma) protocol – the experience gained while teaching Carol Davila medical students

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Objective: Studies show ultrasound is a skill that medical students manage to learn and strengthens their knowledge of anatomy, diagnostic accuracy, and physical examination skills. The purpose of this study was to describe the learning curve of medical students for using the FAST ultrasound technique and apply the skills gained to solve different clinical scenarios after limited training during a 1-day workshop.

Materials and methods: This is a randomized controlled trial, which assesses the knowledge of medical students before and after a FAST workshop, as well as assessing if an intermediate test helps with retention of information. The cohort for this investigation comprised 30 medical students from Carol Davila University of Medicine and Pharmacy. Participants from each workshop session were randomly split into 2 groups. Both groups received a pre-WS test and post-WS test the first group received the same questionnaire at 2-weeks from the training session and a clinical case questionnaire 4-weeks after the workshop, while the second group only received the 4-weeks evaluation.

Results: Mean scores significantly improved from pre-WS testing to post-WS testing, with an average grade of 5,74-points pre-WS to 17,07 points post-WS (25 possible points). The 2-week post-WS questionnaire had a lower mean score of 15,92 points, but it was still remarkably higher than the pre-WS average scores. Group 1 did not show significantly higher results during the 4-week testing. They had an average score of 10,31 points, compared to an average score of 10 points for Group 2.

Conclusions: We have demonstrated with our FAST workshop and questionnaires that undergraduate medical students from Carol Davila University of Medicine and Pharmacy with little or no prior exposure to ultrasound showed improved scores after a brief educational intervention. A single intermediary test does not result in better retention of the information over time.

ID726 Navigating challenges: a case presentation of gallbladder adenocarcinoma in a young male with HIV

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Introduction: Adenocarcinoma is a rare and aggressive malignancy but the most frequent type of cancer developing in the gallbladder. It is more common in females over 60 years old with a history of gallbladder inflammation.

Materials and methods: We present the case of a 34-year-old male with human immunodeficiency virus infection (HIV) referred to our hospital for elevated liver transaminases.

Results: The elevated liver transaminases were found during a routine checkup ordered by his Infectious Disease physician. The patient showed no signs or symptoms of hepatic or gallbladder disease and no other abnormal blood markers. An abdominal ultrasonography was performed in our service, revealing a gallbladder polyp without any other pathological finds. A laparoscopic cholecystectomy was performed with difficulty due to bleeding from the liver bed of the gallbladder. The postoperatively histopathological exam report came back positive for Adenocarcinoma of the gallbladder pT4b. Further imaging studies, such as whole-body computed tomography and a Cholangiography Magnetic Resonance Imaging, showed no signs of tumoral spread, just some enlarged periportal lymph nodes. After a consensus with the oncologist, a second surgery for an atypical resection of the liver bed, together with a regional lymph node dissection, was performed. The cystic duct stump and the paraaortic nodes sent for rapid intraoperative examination came back negative for malignant cells. Postoperatively recovery was quick and the quality of life returned to normal after two weeks.

Conclusions: This case underlines the importance of early recognition and thorough evaluation in young individuals presenting with biliary symptoms or signs. Gallbladder cancer must be included in the differential diagnosis, even in young patients with a low index of suspicion, to avoid diagnostic delays. Early detection and a comprehensive, individualized treatment approach can significantly impact the prognosis and quality of life for these individuals.

ID763 Reconstruction with Locoregional Flaps of Defects After Excision of Large Cutaneous Tumors in the Lower Third of the Face

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Objectives: The reconstruction of large defects in the lower third of the face can be challenging. Locoregional flaps could be a feasible alternative, providing good aesthetic and functional outcome (compared with postsurgical contraction of a skin graft) and a lower donor site morbidity (compared with a free flap). Modification of consecrated loco-regional flaps could offer a reconstructive solution that suites the best each individual patient.

Methods: A total of 10 patients with large cutaneous tumors in the lower third of the face underwent surgical excision (R0) between 2019 and 2023, resulting in large defects, followed by reconstruction with locoregional flaps. Due to the size of the defect, a combination of 2-3 flaps and a modification of classic flaps was chosen as an optimal solution for these patients.

Results: Modification of flaps corresponding to patient facial traits and anatomical variation resulted in a satisfactory appearance with preservation of functionality. Viability of flaps wasn't compromised over the follow-up period, color and texture of the flap were similar to the surrounding tissue, without distortion. There was only one case in the series with minor complication (wound dehiscence ~1cm in length that was addressed in second surgery later on).

Conclusion: Modified locoregional flaps are valuable tools in the reconstruction of the lower third of the face after large cutaneous tumor removal, providing safe and effective result. Comprehension of anatomical variation, aesthetic units of the face and good surgical skills lead to application of these techniques, that offer considerable benefits reported to low complication risk and morbidity.

ID768 Objective Assessment of Fetal Head Station during Labor: Integrating Three Combined Ultrasound Parameters in Routine Obstetrical Practice

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Introduction and Objective: Clinical palpation and digital pelvic examination for fetal head station are subjective and less accurate compared to ultrasound scans. Transperineal ultrasound examination is increasingly used in conjunction with clinical assessment during labor. This method can be used to monitor labor progress and predict a successful vaginal delivery. Ideally, accurate station-based labor progression curves for the second stage of labor can help determine adequate labor progression and individualized management based on algorithms and clinical decision support systems. The objective of our study was to evaluate the concordance between clinical evaluation and three combined ultrasound parameters for fetal head station and the accuracy of transperineal ultrasound examination during labor.

Materials and Methods: We conducted a prospective, longitudinal, observational, monocentric study at the Obstetrics & Gynecology Clinic of the "Sfântul Pantelimon" Clinical Emergency Hospital during a nine-month interval. The main ultrasonographic parameters that we examined were represented by the angle of progression, head-perineum distance, and direct measurement of head station.

Results: A total of 207 pregnant women who delivered at our Clinic were included in the study. The concordance between the clinical and ultrasound parameters was 57.4% when the evaluation was performed at 8 cm dilation and around 34% above 8 cm dilation. The highest accuracy in ultrasound examination for determining head station was obtained when the three parameters were combined, with the angle of progression being the most reliable, especially when assessed before uterine contraction and during the uterine contraction apex or maximal pushing effort.

Conclusion: Sonographic assessment during labor using transabdominal and transperineal planes is feasible and accurate and can be used as a clinical decision support. A more accurate diagnosis improves labor outcomes, but this depends on the correct selection of ultrasound parameters and the existence of a management protocol according to ultrasound findings.

ID773 Midface reconstruction after tumoral resection

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Objectives: To review a group of patients with primary or recurrent cutaneous and subcutaneous tumors of the midface who undergo complete tumoral resection and analyze: (1) Extent of deep plane resection; (2) Types of approach to defect closure according to the reconstructive ladder; (3) Oncological results; (4) Short and long -term outcome and aesthetic results

Method: All patients from a single institution who present with tumors of the midface from November 2022 until September 2023 were enrolled in the study. All patients were photographed before, intra-operative after tumoral resection, during flap design, first day post-operative, day of discharge and at 7 and 14 days post-operative.

Results: Twenty-five patients of the series were diagnosed with basal cell carcinoma with complete resection and survival of flaps with no complications. Six patients were diagnosed with squamous cell carcinoma and needed additional immunohistochemistry. Ninety percent of patients were pleased with their appearance at 6 weeks post-operative (different types of reconstructive methods were included).

Conclusions: Most resections were complete with adequate choice of flap design and high patient satisfaction. Nonetheless, the midface represents a challenging area for reconstruction and approach can vary according to tumor size and thickness, bone involvement, quality of the underlying tissue as well as patient compliance and needs.

ID775 The comparison between Gleason score in conventional biopsy versus radical prostatectomy and Gleason score in BxChip™ versus radical prostatectomy in prostate cancer

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Introduction: The Gleason grading system is the most frequently used method for staging prostate cancer in both research and clinical practice worldwide.

Objective: This study proposes to evaluate the upgrading versus downgrading given by Gleason score both in conventional needle biopsy versus radical prostatectomy piece and BxChip™ biopsy versus radical prostatectomy piece.

Materials and methods: We conducted a study in the Urology Clinic of „Prof. Dr. Theodor Burghel” Hospital and this included a group of 341 patients diagnosed with prostate cancer admitted to the clinic between 2010-2016, from which 51 (2010-2011) had conventional biopsies and 291 (2011-2016) had biopsies made with BxChip™, that received patent no.US 9.851, 349B2 in 2011. The collected fragments were stored on BxChip™, which allowed the analysis of the block, observing topography of the tissue. The histopathological examination of these fragments was performed in pathological anatomy laboratory and all the histopathological results were interpreted by 3 physicians.

Results: Following the logistic regression analysis, was observed an increase by 1.5 times (C.I. 95% 1.24 ÷ 1.84) in obtaining underestimation for the classic biopsy group vs the BxChip™ biopsy group with $p < 0.001$. For Pattern Minor Gleason score, patients with BxChip™ obtained equal scores at biopsy and radical prostatectomy (54%) and a slight tendency to overestimate (28.2%), but in case of classical biopsy, the tendency is to underestimate (downgrading 1 and 2) (~49%) and equality of scores was observed in only 31.4% of cases with a statistically significant $p < 0.001$.

Conclusion: The Gleason scores of biopsies were compared and ordinal logistic regression analysis revealed a better concordance in BxChip™ group versus conventional biopsy group, so we can conclude that using of BxChip™ in medical practice is a real innovation for correct classification of prostate cancer.

PRECLINICAL SPECIALTIES

ID649 The benefits of sonication when dealing with bone tissue and prosthetics, a comparative analysis

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Objective: To assess the impact of bone tissue and prosthesis sonication on the recovery rate of microorganisms associated with surgical infections.

Methods: The investigation was conducted using a group of patients from whom prosthetics and/or bone, periarticular or soft tissue were collected during surgery. The samples were collected from a hospital in Bucharest. The inclusion criteria for assessing the recovery rate of microorganisms consisted of (1) clinical arguments for suspected septic degradation of the prosthesis or joint, hereby named Test Group, and (2) samples extracted intraoperatively to confirm sterility, named Control Group. All samples were incubated under the same conditions, using solid, liquid and semi-solid culture media.

Results: Following the sonication process, the recovery rate for this group of patients was higher than 90%, while in the absence of sonication, the percentage was lower. The recovery rate for samples from which microorganisms were not recovered after 24 hours did not increase, nor did it when incubated for longer periods of time (>120 hours). Microorganisms that were only recovered through sonication include *Moraxella osloensis*, *Staphylococcus aureus*, *Escherichia coli*, *Mixta calida*, *Corynebacterium pseudodiphtheriticum*. The Control Group remained sterile for both processing protocols.

Conclusion: Prosthetics and tissue sonication facilitate the identification of microorganisms associated with surgical infections. The medical devices required for sonication are easy to use, economically accessible and contribute to a more efficient microbiological laboratory diagnosis.

ID662 Evaluation by dielectrophoresis of electric parameters of cells modified by apoptosis

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Objective: Apoptosis is a fundamental process in the development and maintenance of the balance of multicellular organisms. Using an appropriate and sensitive method for assessing apoptosis can provide valuable insights into apoptosis phenomenon. The aim of this study was to prove that dielectrophoresis (DEP) is such a method, which, compared to the classical techniques, presents the advantage of being a fast and specific reagent-free procedure.

Methods: Dielectrophoresis is an electrokinetic phenomenon consisting in the movement of a dielectric particle (in our case a living cell) in an inhomogeneous electric field. The strength and sense of this movement depend on the electric and geometric properties of the cell, as well as on the frequency of the applied electric field.

To induce apoptosis, NIH3T3 cells were incubated with 2μM staurosporine for 2 hours in DMEM. Induction of apoptosis was confirmed by DNA electrophoresis.

Cells were collected and resuspended in a low electrically conductive buffer (300 mM sucrose, pH 7.4, ~ 10 μS/cm). Acquisition of DEP spectra were performed between 5 kHz and 50 MHz, using an in-house made microchip (OpenDEP LoC). Data was processed using the OpenDEP software developed in our laboratory.

Results: The analysis of the frequency dependence of DEP movement allows to calculate various electric parameters of cells: membrane permittivity, membrane conductivity, and cytoplasmic conductivity. Modifications of the electric parameters of cells incubated with staurosporine were revealed: membrane permittivity had significantly lower values in cells incubated with apoptosis-inducer compared to control cells. The membrane and cytoplasmic conductivities had the same tendency, without statistical significance. These findings indicate that staurosporine induced apoptosis is associated with membrane alterations, most probably due to modification of lipid composition of the bilayer.

Conclusions: The results indicate that DEP is efficient in detection of membrane alterations occurring during apoptosis of NIH3T3 cells.

ID665 In-vitro study of Age-Related Macular Degeneration(AMD) by dielectrophoresis

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Objectives: In the aging population, age-related macular degeneration (AMD) is a widespread cause of blindness. Progressive degeneration of Retinal pigment epithelium (RPE) cells is a main hallmark of AMD. RPE cells play an important role in maintaining the health and functionality of the photoreceptor cells in the retina, which makes it interesting to study them for retinal pathologies like AMD. The reactive oxygen species are known to be a significant contributor to the progression of AMD. In this study, we examined the electrical properties of RPE cells in response to the oxidative stress caused by hydrogen peroxide (H_2O_2).

Method: We implemented an in-vitro cell culture model for AMD by incubating rat RPE cells with various H_2O_2 concentrations to induce oxidative stress. The effect of various H_2O_2 concentrations were examined using Real Time Cell Analysis (RTCA) and microscopy. The cells were further studied by dielectrophoresis. The latter provided information about electrical parameters of cell membrane and cytosol in response to the exposure to H_2O_2 .

Results: From RTCA and microscopy analysis, it was observed that rat RPE cells proliferation and morphology were not modified for exposures up to 25uM H_2O_2 . However, DEP measurements showed a significant increase in cytosol conductivity, while the membrane permittivity was not affected.

Conclusions: DEP is a useful method to examine how oxidative stress affects RPE cells in AMD. Dielectrophoretic analysis of RPE cells can help in gaining a better understanding about the mechanisms producing AMD and discovering potential therapeutic targets.

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ID758 Default EEG Macrostate Dynamics and Responsiveness to Photic Stimulation in Anesthetized Rats

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We recently proposed that the continuous EEG of awake humans can be regarded as an alternating sequence of reoccurring oscillatory patterns, referred to as oscillatory macrostates. The macrostate that showed the largest decrease in occurrence probability during clinical intermittent photic stimulation (IPS) was labelled as the default oscillatory macrostate (DEM) by analogy with the stimulus-negative behaviour of the default mode network. The aim of this study was to experimentally investigate the relationship between DEM and anaesthetic depth.

General anaesthesia was induced by either chloral hydrate (CHL) or isoflurane (ISO) in male adult Wistar rats. The fronto-occipital EEG was recorded by means of cortically implanted wired electrodes. Deep anaesthesia was ensured by the occurrence of discontinuous EEG burst-suppression patterns (BS) comprised of high-power oscillations alternating with flat periods. Monocular IPS at 0.5 Hz was delivered in 60-second trials, alternating with a 60-second recovery period. The DEM reactivity (DER) was calculated as the decrease in DEM occurrence probability during IPS on the EEG channel ipsilateral to the stimulated eye.

We found that for both CHL and ISO, DER increased monotonously from continuous EEG to BS. With increasing anaesthetic depth, there was an increasing probability that DEM was the macrostate with the lowest oscillatory power among all macrostates. During BS the DEM accounted for most of the flat periods.

We introduced the first rat model to assess the dynamics of the oscillatory EEG macrostates. With increasing anaesthetic depth, the default EEG macrostate occurrence was more strongly suppressed by photic stimulation. Its increased reactivity was associated with a decrease in its oscillatory power. Our data suggest that the default EEG macrostate is in a competitive balance with the stimulus positive macrostates, which prevail during deep anaesthesia. It is likely that the default EEG macrostate recovery is necessary for consciousness awakening from anaesthesia

ID762 Examining Epileptic Brain's Hyperexcitability: Insights from Burst-Suppression EEG Reactivity

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Aim: We examined if the burst-suppression (BS) patterns that appear on the electroencephalogram (EEG) during deep anesthesia, which are reactive to external stimuli, exhibit a higher reactivity in the epileptic brain.

Methods: We used adult Wistar Albino Glaxo Rijswijk (WAG/Rij) rats (a genetic rat model of absence epilepsy, which present characteristic episodes of spike-and-wave discharges (SWDs) on the EEG) as the study group and age-matched Wistar rats as the control group. We recorded two cortical fronto-occipital EEG leads while under isoflurane anesthesia and delivered intermittent photic stimulation (IPS) to one eye at a rate of 0.5 Hz in 1-minute trials. We used offline EEG analysis with the data from the channel ipsilateral to IPS to minimize the effect of visual evoked potentials. The suppression ratio (SR) is the fraction of time spent in suppression, over 1-minute intervals. The baseline SR was 40% - 80%. BS reactivity index (BSRI) is the reduction in SR that occurred during IPS, relative to the baseline SR recorded immediately before IPS.

Results: During deep anesthesia, IPS did not trigger SWDs. Controls had a mean BSRI of 0.2 and the WAG/Rij mean BSRI was increased by 55%. Following administration of ethosuximide, the difference in BSRI was reduced, but it paradoxically increased after the administration of carbamazepine, both at doses that had no effect on the controls.

Conclusions: Our data suggest that measuring burst-suppression EEG reactivity could be useful to further study the hyperexcitability of the epileptic brain.

ID772 Unraveling the role of miRNAs in liver to pancreas transdifferentiation

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Introduction: To overcome the limitation of sufficient amounts of donor tissues for successful treatment of diabetes through transplantation, the pancreatic transcription factors (pTFs) that can induce transdifferentiation (TD) are attractive candidates for β -cell regeneration. The aim of the present study was to determine the miRNAs expression profiles of pancreatic differentiated liver cells (PLC), and to evaluate the relevance of their association with specific epithelial-to-mesenchymal (EMT) markers.

Methodology: Transdifferentiation of primary cultures of human liver cells into PLC by ectopic expression of specific pTFs such as PDX1, NeuroD1 and MafA was performed sequentially and hierarchically. We compared global miRNAs expression by using microarray technology (Agilent) and selected miRNAs such as miR17-5p, miR26-3p, miR30a-5p, miR7-5p, miR424-5p, miR320a, were validated by RT-qPCR. Gene expression levels of specific EMT markers such as E- and N-cadherin, Vimentin, Snail, Slug, and Zeb1 were also included.

Results: Global miRNA expression profiles indicated that genetic reprogramming of primary human liver cells could lead to an overall β -like state. Our data revealed that 67 miRNAs have been identified significantly differential expressed in TD ($FC \geq 0.8$; $p < 0.05$). We also have shown that a well-recognized group of miRNAs including miR17-5p, miR30a-5p, and miR26a-3p have been found to be statistically significant down-regulated while miR424-5p is up-regulated in TD cells ($p < 0.001$). In TD, Vimentin has been found to be positive correlated with Snail and Zeb1 and miR424p-5p was found to be negative correlated with pTFs (Spearman correlations, $p < 0.05$).

Conclusions: Global analyses suggested that liver to pancreas transdifferentiation is associated with moderate alterations in miRNA expression. Manipulation of miRNAs expression (inhibition/overexpression) could increase TD efficiency. Cell therapy by reprogramming adult cells is a promising approach in the treatment of diabetes, as the patient is the donor of his own therapeutic tissue, we have a large availability of cells from the same donor, and long-term immunosuppressive treatment is not necessary.

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