



# **MÆdica** *a Journal of Clinical Medicine*

*Editor-in-Chief:* Mircea Cinteza

## Supplement

*Congress of „CAROL DAVILA”  
University of Medicine and  
Pharmacy, Bucharest*

(November 25<sup>th</sup>-27<sup>th</sup> 2021)  
*Hybrid Edition*

[www.maedica.ro](http://www.maedica.ro)

ISSN 2501-6903  
ISSN-L 2501-6903



## Editor-in-chief

Mircea CİNTEZA (Romania)

## Senior Editors

Ioanel SINESCU (Romania)

Alan G. FRASER (UK)

## Deputy Editors

Dragos VINEREANU (Romania)

Bogdan O. POPESCU (Romania)

## Managing editors

Eliza Elena CİNTEZA (Romania)

Adriana ILIESIU (Romania)

## International Editorial Board

1. Martin BURIAN (Austria)
2. Gianfranco BUTERA (Italy)
3. Gheorghe CERIN (Italy)
4. Adrian COVIC (Romania)
5. Maurizio CUTULO (Italy)
6. Marco DIENA (Italy)
7. Heiner FANGERAU (Germany)
8. Antonio FEDERICO (Italy)
9. Nicholas GOURTSOYIANNIS (Greece)
10. Christopher GRANGER (USA)
11. Nicolae HANCU (Romania)
12. Marc HUMBERT (France)
13. Mircea IVAN (USA)
14. Vecsei LASZLO (Hungary)
15. Gerald MAURER (Austria)
16. Serban MIHAILEANU (France)
17. Radu MIHAI (UK)
18. Lucian MIRON (Romania)
19. Piero PORTINCASA (Italy)
20. Schmidt THORSTEN (Germany)
21. Emil TOESCU (UK)
22. Selman URANUES (Austria)
23. Victor VOICU (Romania)

## Scientific Publishing Committee

(„Carol Davila” University of Medicine and Pharmacy)

1. Petru ARMEAN
2. Mihaela BALGRADEAN
3. Mircea BEURAN
4. Dana BODNAR
5. Miron BOGDAN
6. Alexandru BUCUR
7. Emanoil CEAUSU
8. Delia CİNTEZA
9. Catalin CIRSTOIU
10. Ileana CONSTANTINESCU
11. Mircea DICULESCU
12. Ion FULGA
13. Daniela FILIPESCU
14. Mihai HINESCU
15. Ecaterina IONESCU
16. Ruxandra IONESCU
17. Anca LUPU
18. Dumitru LUPULIASA
19. Dana MINCA
20. Cristina PARVU DINU
21. Doina PLESCA
22. Bogdan A POPESCU
23. Adrian STREINU-CERCEL
24. Radu VLADAREANU

**IMPORTANT:**

- The journal is granted with **B+** indicative by the **CNCSIS**.
- The annual subscription comes along with a CMR certificate that offers you **5 EMC points**.
- *Attention! The subscription can be solicited starting with any edition of the Medical Journal.*

For more information, please visit [www.maedica.org](http://www.maedica.org).

**COPYRIGHT:**

All data, information and protocols from the official site [www.maedica.org](http://www.maedica.org) and **MÆDICA - a Journal of Clinical Medicine** may be reproduced, copied or adapted, freely and unconditionally, under the provision to mention the source as follows: "taken/adapted from **MÆDICA - a Journal of Clinical Medicine**."

**PUBLISHER:** MEDIA MED PUBLICIS

**Address of editorial staff:**

10, Petofi Sandor, 1<sup>st</sup> District, Bucharest

**Phone:** +4031 101 13 221

**Mædica J Clin Med.**

**[www.maedica.ro](http://www.maedica.ro)**

**ISSN: 2501-6903**

**ISSN-L: 2501-6903**

### **MAEDICA - a Journal of Clinical Medicine**

*A valuable Journal of clinical medicine, **MAEDICA**, has as a main purpose to enrich the quality of the medical practice in Romania through its scientific specialized content.*

***From the summary:***

- the newest studies, research and discussions in clinical medicine nowadays;*
- scientific editorials that reflect an up-to-date synthesis of the results in the newest national and international medical papers and research;*
- a number of clinical Romanian works and also articles from international collaborators;*
- the content of the Journal is in English only.*

*The Journal has a great peer-review board and its content respects the international standards of certified quality and originality of the articles.*

*Subsequent to the CNCSIS accreditation, the publication was granted **B+**.*

*At the present moment, **MAEDICA - a Journal of Clinical Medicine** is part of the international data bases as follows:*

- **PubMed***
- **EBSCO***



# ORGANIZING COMMITTEE

Prof. Viorel JINGA, *Congress Chairman, Rector*  
Prof. Simona RUTA, *Congress Chairman, Vice Rector for Scientific Research*  
Prof. Dragos VINEREANU, *President of the Senate*  
Prof. Ecaterina IONESCU, *Vice Rector*  
Prof. Catalina POIANA, *Vice Rector*  
Prof. Bogdan O. POPESCU, *Vice Rector*  
Prof. Florentina FURTUNESCU, *Vice Rector*  
Prof. Silviu PITURU, *Vice Rector*  
Prof. Valentina UIVAROSI, *Director, Doctoral School*  
Prof. Catalin CIRSTOIU, *Dean*  
Prof. Andreea DIDILESCU, *Dean*  
Prof. Doina DRAGANESCU, *Dean*  
Prof. Victor STRAMBU, *Dean*  
Prof. Cristina PARVU, *Director of Department for Grants and Scientific Research*  
Prof. Dana CRAIU, *Vice-Dean for Scientific Research*  
Prof. Sabina Andrada ZURAC, *Vice-Dean for Scientific Research*  
Assoc. Prof. Denisa Ioana UDEANU, *Vice-Dean for Scientific Research*  
Assoc. Prof. Mihai BURLIBASA, *Vice-Dean for Scientific Research*  
Assoc. Prof. Bruno VELESCU, *Chairman of the Research Ethics Committee*  
Prof. Mihai HINESCU, *Chairman of the Senate's Scientific Research Committee*  
Prof. Liliana PLES, *Chairman of the Academic Ethics and Deontology Committee*  
Prof. Victor PURCAREA, *Director of „Carol Davila” Publishing House*  
Prof. Octavian BUDA, *History of Medicine*  
Assoc. Prof. Raluca PAPACOECA, *Director of the university secretariat*  
Ing. Eugenia MIHAI, *Administrative Director*

## Content

# Abstracts of the posters exposed within the Congress of „CAROL DAVILA” University of Medicine and Pharmacy, Bucharest

Dental Medicine	3
Pharmacy	7
Preclinical Specialities	15
Medical Specialities	29
Surgical Specialities	67
Abstracts of papers presented as oral communications within the YOUNG INVESTIGATOR’S AWARD session - the Congress of „CAROL DAVILA” University of Medicine and Pharmacy, Bucharest	85
Medical specialities	85
Surgical specialities	89
Preclinical specialities	92
Pharmacy	95
Dental Medicine	97



INIȚIERE. EVOLUȚIE. EXCELENȚĂ

DIN 1857

# CONGRESUL UNIVERSITĂȚII DE MEDICINĂ ȘI FARMACIE CAROL DAVILA BUCUREȘTI

*Perspective interdisciplinare*

\*\*\*\*\*  
EDIȚIA A IX-A

PALATUL PARLAMENTULUI/ 25-27 NOIEMBRIE 2021  
\*\*\*\*\*

## ID220 DentRep – a Novel Software Platform for Automatic Student Allocation for Elective Courses

Ilinca Radu<sup>1</sup>, Ruxandra Sfeatcu<sup>2</sup>, Andreea Didilescu<sup>3</sup>

<sup>1</sup>Department of Biophysics, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Oral Health and Community Dentistry, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Department of Embryology, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Introduction:** Digitalization of suitable processes is a strategic goal for any Faculty Administration. To perform automatic student allocation, a new software platform has been introduced.

**Materials and Methods:** The DentRep software platform was developed in Visual Studio 2012. Having minimum computer resources requirements that any personal computer can meet, it is therefore highly accessible. Data input represents an Excel sheet containing ranked students' preferences for the available elective courses collected by a Google-Forms Survey administered by Dental Students League – a preliminary step. Based on student option, previous year GPA, and availability, each student is allocated to a specific elective course. Students who do not express their options are automatically allocated where slots are left available, in alphabetic order. Besides automating the allocation process, the software platform also generates a wide range of reports which serve as data input for the management analysis.

**Results:** DentRep was introduced at the Faculty of Dental Medicine in 2020. Instant automated processing of the input data, coupled with full transparency of the allocation process – an accreditation requirement suggest the viability of the platform.

**Conclusion:** This fully configurable software platform proved to be successful for the student allocation for elective courses process. It will be further developed as a web-based application to fully automate the processing pipeline (data collection and processing).

## ID258 Screening for Carriage of Methicillin-Susceptible *Staphylococcus Aureus* and Methicillin-Resistant *S. Aureus* among a Series of Dental Students

Gabriela Bancescu<sup>1</sup>, Andreea Alexandra Alecu<sup>1</sup>, Bogdan Dabu<sup>1</sup>

<sup>1</sup>Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** The purpose of the study was the screening for nasal, pharyngeal and hand carriage of methicillin-susceptible *Staphylococcus aureus* (MSSA) and methicillin-resistant *S. aureus* (MRSA) strains among a series of dental students from “Carol Davila” University of Medicine and Pharmacy (CD-UMP), Bucharest.

**Method:** The study was conducted on 93 healthy dental students, in the second year of study, at the Department of Microbiology, Faculty of Dentistry, CD-UMP, in the last 2 months of 2019. A nasal swab (NS), a pharyngeal swab (PS), and a hand swab (HS) were collected from each student and seeded on Columbia blood agar, Mannitol-Salt agar, *Brilliance* MRSA 2 agar (Oxoid, U.K.) and in Chapman broth (Sanimed, Romania). The identification of *S. aureus* was based on conventional diagnostic methods and the ID 32 STAPH system (BioMérieux, France). Strains that developed blue colonies on the *Brilliance* MRSA 2 agar were considered MRSA. Fisher's exact test was applied to assess any correlation between MRSA carriage and the student's sex or smoking habit.

**Results:** Eighteen, 20 and 32 strains of *S. aureus* were isolated from: NS, HS and PS. Double nasal-pharyngeal/ pharyngeal-hand carriage and triple nasal-pharyngeal-hand carriage were also found. Five pharyngeal strains and one nasal strain were MRSA, but no statistically significant association was found between the investigated variables.

**Conclusions:** The frequencies of pharyngeal, nasal and hand carriage of MSSA were: 29%, 18.27% and 21.5%, while 6.45% of students were MRSA carriers. The frequency of MSSA carriage and the frequency of MRSA carriage were higher than those obtained for another group of second-year students, who were investigated (except for hand carriage) in the autumn semester of the academic year 2017-2018.

**Acknowledgement:** This study is part of a bachelor's thesis conducted at the same Department of Microbiology, CD-UMP, which will be defended in September 2021.

## ID267 Comparative Study of the Oral Symptoms in Conventional Smokers and E-Cigarettes Users

Ioanina Parlatescu<sup>1</sup>, Elena Cosnete<sup>2</sup>, Elena Coculescu<sup>1</sup>, Carmen Nicolae<sup>1</sup>

<sup>1</sup>Department of Oral Pathology, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** To assess the differences between conventional cigarette smokers and e-cigarette users in connection with oral mucosa smoking-related symptoms

**Methods:** For the present observational analytical research we collected data on the oral symptoms reported by conventional smokers compared to e-cigarette users. We used the questionnaire method.

**Results:** The study included 209 persons: 149 men and 60 women. The majority, 67%, are between 26 to 45 years old. Among conventional cigarette smokers, 38.4% are males and 61.6% females, for e-cigarette users 93.8% are males, 2% females. From the category of both types of smoking users, 73.8% are males and 26.2% females. Most of the subjects 46.2% answered that they address the dentist for acute painful symptoms, 33% when a discomfort occurs and only 38.5% present for a routine check-up at 6-12 months. 25.8% of subjects address the dentist when dental problems appear, 9.6% when they have visible teeth aesthetics disturbances and 5.7% of the responders never consult the dentist. Thus only 32.5% of smokers and electronic cigarettes users regularly have a dental check-up. Regarding the oral symptoms, 41.1% persons reported that they did not perceive any oral manifestations, 31.6% xerostomia, 30.1% halitosis, 18.2% nicotinic pigmentation on the oral mucosa or teeth, 18.2% retractions or gingival pain and 17.7% burning or stinging sensations.

**Conclusions:** A higher percentage of men than women use electronic cigarettes. Conventional cigarette smokers associate more frequent oral-smoking related symptoms, users of both forms of smoking have fewer symptoms than the previous, and e-cigarette users had the least amount of oral symptoms associated with smoking. The addressability of smoking patients to the dentist is low and not all of them not know the risks of smoking in the oral cavity.

## ID316 Consequences of Pulpal Diseases on the Speed of Root Resorption in Primary Teeth

Ion-Victor Feraru<sup>1</sup>, Anca Maria Raducanu<sup>1</sup>, Simona Elena Feraru<sup>1</sup>, Daciana Zmarandache<sup>1</sup>, Mihaela Tanase<sup>1</sup>

<sup>1</sup>Department of Paedodontics, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Root resorption (RR) is a process that involves the loss of dental hard tissue as a result of clastic cellular activity.

The aim of the present study was the evaluation of the rhythm of root resorption of primary teeth with pulpal diseases in patients consulted and treated in the Paedodontics Clinic of the Faculty of Dental Medicine within “Carol Davila” UMP Bucharest in 2018-2020.

**Method:** The required data were obtained from the clinical observation sheets of 365 patients aged between 1 year and 7 months and 12 years and 2 months (mean age  $6.44 \pm 0.08$  years).

The tooth study group included 519 primary teeth with pulpal diseases in which the degree of root resorption was assessed following the analysis of radiological images.

Statistical data processing was performed with PSPP v.1.4.1, the results being considered significant for  $p \leq 0.05$ .

**Results:** The change in root resorption rate was observed in 46.2% of the teeth in the study group, the most common being accelerated RR (45.9%). Pathological RR was most commonly associated with chronic apical periodontitis (50%).

**Conclusions:** The high frequency of RR changes associated with severe pulpal disorders emphasizes the need for early diagnosis and treatment in order to prevent early loss of temporary teeth, especially in the Korkhaus support area with serious consequences for the further development of permanent dentition.

## ID357 Platelet-Rich Plasma and Chronic Odontogenic Maxillary Sinusitis: a Promising Therapeutic Option

Daniela Miricescu<sup>1</sup>, Ioana Rusu<sup>2</sup>, Alexandra Ripszky Totan<sup>1</sup>, George Costin Rusu<sup>3</sup>, Constantin Stefani<sup>4</sup>, Iulia Stanescu<sup>1</sup>, Maria Greabu<sup>1</sup>

<sup>1</sup>Department of Biochemistry, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Anatomy and Embryology, Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Department of Modern Languages, Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>4</sup>Department of Family Medicine and Clinical Base, „Dr. Carol Davila” Central Military Emergency University Hospital, Bucharest, Romania

**Objectives:** Chronic odontogenic maxillary sinusitis (COMS) accounts approximately 10% to 12% of cases of maxillary sinusitis. The most common causes of COMS are dental abscess, periodontal disease, irritation, secondary infection caused by intra-antral foreign bodies, and sinus perforations during tooth extraction. Platelet-rich plasma (PRP) is a autologous plasma enriched in growth factors which are involved in wound healing process.

The main aim of our study is to investigate if PRP growth factors can induce sinus wound healing via PI3K/AKT/mTOR signalling pathway.

**Methods:** Our pilot study included five patients diagnosed with COMS, evaluated by CT Scan. Inflamed sinus mucosa samples were collected and incubated 24 h at 37°C with 2 mL PRP, obtained from venous blood collected from each patient. The control samples were represented by sinus mucosa samples without PRP treatment. The samples were lysed and sonicated on ice. Cell lysate was used further to measure the following proteins: Ribosomal protein S6 kinase beta-1 (S6K1) and Tuberous sclerosis complex 2 (TSC-2) using an automatic Analyser Luminex X MAP Technology (Merck-Germany).

**Results:** Our results reported statistically increased levels for S6K1 and TSC-2 in PRP-treated sinus mucosa versus sinus mucosa without PRP treatment ( $p < 0.05$ ). The results of the biochemical evaluations were correlated with CT images performed at 10 months after PRP treatment.

**Conclusions:** Our preliminary results highlights the positive effect of PRP in COMS treatment. Growth factors released from PRP activates downstream proteins from PI3K/AKT/mTOR signaling pathway, S6K1 and TSC-2 which are associated with cell growth and proliferation. PRP is a growing and promising therapeutic option in dental medicine including COMS.

## ID398 Evaluation of Therapeutics Benefits of Systemic Antibiotic Therapy for Periodontitis

Violeta Daniela Caruntu<sup>1</sup>

<sup>1</sup>Discipline and Oral Rehabilitation, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Introduction:** The aim of this study is to evaluate the efficacy of using Amoxicillin (AMX) and Metronidazole (MTZ) in combination with scaling and root planning (SRP) for the management of periodontitis.

**Methods:** From a group of 67 patients with periodontitis disease two smaller ones were formed; a study group, that received Amoxicillin (AMX), 500mg, 8 hours, 14 days, and Metronidazole (MTZ), 250 mg., 8 hours, 14 days, along with scaling and root planning (SRP) and a control group, that received only scaling and root planning (SRP) within 24 hours.

The depth (PD) and clinical attachment loss (CAL) of the pockets, of 0-3mm., 4-6mm. and over 7mm. was measured in 6 points per tooth and the results were compared.

**Results:** Periodontal pockets of 4-6mm depth, compared to the initial moment, reduced their depth (PD) by 2-3mm. and over 3mm., both at 3 months and 6 months in the study group after the administration of the antibiotic, in large numbers compared to those from the control group.

Periodontal pockets over 7mm. were reduced by 2-3mm. and over 3mm., 2-3 times higher in the study group compared to the control group at 3 and 6 months, with statistical significance.

The CAL variation, at 3 and 6 months, for 4-6mm. pockets and those over 7mm., of 1-2mm. and 2-3mm. is statistically higher in the study group.

**Conclusion:** The result from this study suggests that combined Amoxicillin and Metronidazole use as an adjunct to scaling and root planning leads to better clinical healing (with statistical significance) compared to mechanical treatment alone.



## ID171 Phytochemical Profile and Antioxidant Activity of Some *Capsicum Annuum* L. Varieties

Teodora Deculescu-Ionita (Costea)<sup>1</sup>, Maria Lidia Popescu<sup>1</sup>, Ligia Elena Dutu<sup>1</sup>, Cerasela Elena Gird<sup>1</sup>

<sup>1</sup>Department of Pharmacognosy, Phytochemistry and Phytotherapy, Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

*Capsicum annuum* L. varieties have an important nutritional and therapeutic value due to their chemical composition rich in vitamins, proteins, minerals and capsaicin. Pepper varieties have a wide range of therapeutic properties such as antioxidant, anti-inflammatory, hypolipidaemic, hypoglycemic, antibacterial and anticancer.

**Objective:** The aim of our study was the evaluation of the phytochemical profile and antioxidant activity of some pepper varieties.

**Material and methods:** As material we have used fresh bell pepper (AGV), sweet red kapia pepper (AKR), red hot pepper (AIR) and green hot pepper (AIV), which were acquired from a local supermarket in Bucharest. The phytochemical profile was assessed by means of qualitative (specific chemical reactions) and quantitative analysis. Total phenolic, flavonoids and phenolcarboxylic acids contents was determined by means of spectrophotometric methods using both aqueous and hydroalcoholic (50% ethanol) solutions. The antioxidant activity (expressed as ascorbic acid equivalents) was determined using the scavenger activity towards the DPPH free radical and the ferric reducing assay.

**Results:** Analyzed pepper varieties are a source of carotenoids, flavonoids, tannins, phenolcarboxylic acids and polysaccharides. Regarding the total phenolic, flavonoids and phenolcarboxylic acids contents, hydroalcoholic solutions had a higher content compared to aqueous ones, for all analyzed samples. The total phenolic content (expressed as tannic acid equivalents) decreased as follows: AIV (0.28 g%) > AIR (0.25 g%) > AKR (0.22 g%) > AGV (0.18 g%). AGV showed the highest flavonoids content (0.17 g% - expressed as rutin equivalents), while AIR was a rich source of phenolcarboxylic acids (0.06 g% - expressed as chlorogenic acid equivalents). The best antioxidant capacity was observed for AIR by means of both methods.

**Conclusions:** The solvent is a key factor that influences both the phenolic content and the antioxidant capacity. According to our study, analyzed indigenous pepper varieties are a source of bioactive compounds with important antioxidant potential.

## ID186 Synthesis and *In Silico* Studies of N-Substituted Benzamides as Potential Antipsychotic Agents

Diana Camelia Nuta<sup>1</sup>, Carmen Limban<sup>1</sup>, Constantin Draghici<sup>2</sup>, Camelia Elena Stecoza<sup>1</sup>, Carmellina Daniela Badiceanu<sup>1</sup>, Ioana-Luiza Caciuc<sup>1</sup>

<sup>1</sup>Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Organic Chemistry Center of the Romanian Academy „C. D. Nenitescu”, Bucharest, Romania

**Objectives:** Schizophrenia is considered one of the most severe mental disorders, having a considerable impact on the functionality and social integration of affected people.

The objective of this study was the synthesis, physicochemical characterization and *in silico* screening of new N-substituted benzamides as potential atypical antipsychotic agents with affinity for dopamine D2 receptors.

**Materials and methods:** *In silico* methods are widely used to predict the properties of new active molecules before they are obtained in the laboratory. We used two web instruments: PASS (<http://way2drug.com/PassOnline/index.php>) and SwissADME (<http://www.swissadme.ch>). Subsequently, the reaction of N-(2-dialkylaminoethyl) -anilines with different benzoyl chloride derivatives give corresponding N-substituted benzamides. The compounds are characterized by their physical and spectral (IR, NMR) properties.

**Results:** The *in silico* study showed that the molecules studied have a high probability of being active in schizophrenia, and the side effects would be similar to those of current antipsychotics. The compounds are also able to cross the blood-brain barrier and none of them is a substrate for the P-glycoprotein and there is a possibility of implementing the synthesis. We synthesized these new N-substituted benzamides which were then physicochemically and spectrally characterized.

**Conclusions:** The synthesized and tested compounds prove that they have a favorable molecular profile for the appearance of antipsychotic effect, being a starting point for performing *in vivo* tests.

## ID204 Pharmacognostical Research Regarding Indigenous *Armillaria Mellea* Mushroom

Maria Lidia Popescu<sup>1</sup>, Cerasela Elena Gird<sup>1</sup>, Ligia Elena Dutu<sup>1</sup>, Teodora Deculescu-Ionita<sup>1</sup>, Elena Iuliana Ionita<sup>1</sup>, Emanuela Alice Luta<sup>1</sup>, Liliana Costea<sup>1</sup>

<sup>1</sup>Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

*Armillaria mellea* (Vahl.) P. Kumm., honey fungus, is considered in Europe and Asia as edible and medicinal mushroom (source of carbohydrates, sterols, fatty acids, nitrogen compound).

**Objectives:** Determination of botanical characteristics, evaluation of chemical composition, quantification of the main chemical compounds and evaluation of the antioxidant activity of indigenous *Armillaria mellea*.

**Material and methods:** The material consists of basidiocarps of this one mushroom harvested in August 2019, from forests of Moraresti, Arges County, Romania. Spectrophotometric and chromatographic methods have been used for mushroom's chemical evaluation. The content of polyphenols was determined by Folin-Ciocalteu method. The antioxidant activity was assessed using scavenger activity against DPPH (2,2-diphenyl-1-picrylhydrazyl) radical.

**Results:** The microscopic examination revealed the presence of hyphae with specific spores. Triterpenes, sterols, polysaccharides, amino acids were identified by specific chemical reactions in honey fungus. By thin-layer chromatography one can note the presence of several spots corresponding to compounds with sterols/ triterpenes behavior. In the course of our investigation we obtained a rich content of polyphenols ( $0.5016 \pm 0.0231$  expressed in g tannic acid per 100 g of dry weight). The antioxidant activity of the extracts ( $EC_{50} = 4.1697 \pm 0.0275$  mg/mL- DPPH assay) can be correlated with the presence of polyphenols, polysaccharides, tocopherols, ergosterol and mineral constituents (mentioned by scientific literature). Also, the antioxidant activity is expressed as ascorbic acid Equivalents ( $5.167 \pm 1.624$  mg/g). From the infrared spectra analysis recorded in the range of  $4000 - 500 \text{ cm}^{-1}$ , the bands corresponding to the nitrites and nitrates were not present. Therefore, we assume that this one mushroom was collected from a non-polluted area.

**Conclusion:** The wild mushroom *Armillaria mellea* represents an alternative source of food that may be used to prevent excessive oxidative stress in the human body.

## ID211 Development of a New Vegetal Hydrogel Useful for the Treatment of Osteoarthritic Complaints

Ligia Elena Dutu<sup>1</sup>, D.T Balaci<sup>2</sup>, Maria Lidia Popescu<sup>1</sup>, Teodora Deculescu-Ionita<sup>1</sup>, Elena Iuliana Ionita<sup>1</sup>, Emanuela Alice Luta<sup>1</sup>, Liliana Costea<sup>1</sup>, Cerasela Elena Gird<sup>1</sup>

<sup>1</sup>Department of Pharmacognosy, Phytochemistry and Phytotherapy, Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Pharmaceutical Technology and Biopharmaceutics, Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Introduction:** *Salicis cortex* (Willow bark), *Rosmarini folium* (Rosemary leaf), *Tammi rhizoma* (Black-bryony rhizome), *Juniperi fructus* / *Juniperi galbulus* (Juniper cone berry) and *Harpagophyti radix* (Devil's claw root) are traditionally recommended for the treatment of painful and inflamed joints. The current paper presents the results conducted to develop a new topical hydrogel, which contains the extracts corresponding to these five herbal drugs.

**Methods:** In the first manufacturing stage, a hydroalcoholic dry extract was obtained, by macerate a mixture of willow bark, rosemary leaf, black-bryony rhizome and juniper fruit (1:1:1:1, w/w/w/w) with ethanol 70%, v/v, followed by lyophilise. Further, this intermediate product was added in a commercial gel, contained Devil's claw extract. Juniper essential oil was obtained by steam distillation from Juniperi fruit, and finally was added to previous formulation. Vegetal raw materials and hydroalcoholic extract was phytochemically analyzed, using specific methods. Flavonoids (expressed as rutin equivalents), phenolcarboxylic acids (expressed as caffeic acid equivalents) and total polyphenols (expressed as tannic acid equivalents) were determined by means of spectrophotometric methods. A volumetric compendial method was used to assess the essential oil in Rosemary leaf and Juniper cone berry. The finished product was characterized in terms of appearance, pH (potentiometric method) and spreadability (Ojeda-Arbussa extensiometric method).

**Results:** The contents of flavonoids, phenolcarboxylic acids total polyphenols and essential oil of raw materials are comparable to those cited in accessed databases. Loss on drying of the extract is less than 5.0%, and the contents of flavonoids, phenolcarboxylic acids and total polyphenols are high. The finished product is a homogeneous gel, with pH 6.1 and a good plasticity.

**Conclusion:** The current formulation may be regarded as a new therapeutic solution in treating painful and inflamed joints, but further pharmacological studies are needed to confirm or decline this hypothesis.

## ID222 *In vitro* Antimicrobial Activity of Three New Schiff Bases Derived from Carbazole Moiety

Alexandra T. Bordei<sup>1</sup>, Diana C. Nuta<sup>1</sup>, Irina Zarafu<sup>2</sup>, Mariana C. Chifiriuc<sup>3</sup>, Carmen Limban<sup>1</sup>

<sup>1</sup>Department of Pharmaceutical Chemistry, Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Organic Chemistry, Biochemistry and Catalysis, Faculty of Chemistry, University of Bucharest, Romania

<sup>3</sup>Research Institute of the University of Bucharest (ICUB) and Department of Microbiology Immunology, Faculty of Biology, University of Bucharest, Romania

**Introduction:** Antibiotic resistance constitutes a global problem, therefore, research is required for the development of efficient therapeutic and preventive strategies for infectious disease control. Schiff bases and also carbazole derivatives proved a broad spectrum of activities, including antimicrobial, antiviral, anti-inflammatory, antioxidant and antitumor activity.

**Methods:** The antimicrobial activity of the Schiff bases was determined using three methods, against a panel of Gram-negative (*Escherichia coli* ATCC 25922, *Pseudomonas aeruginosa* ATCC 27853), Gram-positive (*Staphylococcus aureus* ATCC 25923, *Enterococcus faecalis* ATCC 29212) bacteria, as well as the fungal strain *Candida albicans* ATCC 90029. First, we determined a qualitative antimicrobial screening. Second, the Minimal Inhibitory Concentration (MIC) was determined - the minimum amount of the tested compounds that inhibited the microbial growth was evaluated using the microdilution method in liquid Mueller Hinton medium. After that, we performed antibiofilm activity assay and determined Minimal Biofilm Eradication Concentration (MBEC) values.

**Results:** We tested three (2RS)-2-(6-chloro-9H-carbazol-2-yl)propanohydrazide derivatives (a-c). Regarding qualitative screening of antimicrobial activity, a slight inhibition of growth of fungal strains *Candida albicans* ATCC 90029 was observed. For the quantitative testing, lowest CMI and MBEC values were 0.15 mg/mL, both for compound c, against *Enterococcus faecalis* ATCC 29212.

**Conclusions:** All tested compounds showed antimicrobial activity, the results of qualitative testing may be caused by the marked hydrophobicity of the compounds. Compound c showed the best antimicrobial effect on all tested strains, regarding CMI and CMEB values.

## ID239 Analysis of the Antitumor Capacity of Some New 1,3,4-Oxadiazole-Based Heterocycles

Camelia Elena Stecoza<sup>1</sup>, George Mihai Nitulescu<sup>1</sup>, Constantin Draghici<sup>2</sup>, Miron Teodor Caproiu<sup>2</sup>, Diana Camelia Nuta<sup>1</sup>, Marinela Bostan<sup>3</sup>, Mirela Mihaila<sup>3</sup>

<sup>1</sup>Department of Pharmaceutical Chemistry, Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Costin D. Nenitescu” Centre of Organic Chemistry Romanian Academy, Bucharest, Romania

<sup>3</sup>Center of Immunology, „Stefan S. Nicolau” Institute of Virology, Bucharest, Romania

**Objectives:** In order to develop novel chemotherapeutic agents with potent anticancer activities, a series of new compounds 2,5-diaryl/heteroaryl-1,3,4-oxadiazoles were designed and synthesized.

**Method:** The new 1,3,4-oxadiazole derivatives were prepared by treatment of different aromatic carboxylic acids with various hydrazide derivatives in the presence of phosphorus oxychloride. The *in vitro* cytotoxic activity was assessed by MTS assay on two standardized human cell lines, HT-29 (colon adenocarcinoma) and MDA-MB-231 (breast adenocarcinoma) treated with different concentrations and times. The effects of heterocycle compounds on the tumor cells were evaluated by analyzing the apoptosis and cell cycle phases distribution using flow cytometry assay. Cisplatin (CisPt) and doxorubicin (DOX) were used as reference drugs.

**Results:** In the HT-29 cell line, the tested compounds reduce viability in a similar way regardless of the concentration used. In contrast, in the MDA-MB231 line, cell viability is affected more when the compounds are used in higher concentration (50  $\mu$ M) and the chemical structure has a greater impact. The lower viability data recorded suggest that all the compounds used have a stronger cytotoxic effect comparatively with control (CisPt or DOX). The analyzed compounds determined the arrest of cells in the G0/G1 phase accompanied by a decrease in the S and G2+M phases. In addition, data obtained showed an increase of tumor cells apoptosis in presence of the analyzed compounds.

**Conclusions:** The heterocycle compounds analyzed have great cytotoxic effects on tumor cell lines used. It is noteworthy that all the compounds analyzed modulated the cell cycle and apoptosis processes in tumor cells.

## ID243 Design and Evaluation of Some Topical Biocomposites Based on Collagen, Hyaluronic Acid and Metronidazole for Periodontitis Treatment

Mihaela Violeta Ghica<sup>1</sup>, Madalina Georgiana Albu Kaya<sup>2</sup>, Cristina-Elena Dinu-Pirvu<sup>1</sup>, Lacramioara Popa<sup>1</sup>, Maria Minodora Marin<sup>2,3</sup>, Alice Gianina Simonca<sup>4</sup>, Ileana Rau<sup>4</sup>, Valentina Anuta<sup>1</sup>, Cipiran Chelaru<sup>2</sup>, Alina Lupuliasa<sup>1</sup>

<sup>1</sup>Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Division Leather and Footwear Research Institute, National Institute for Textile and Leather Research and Development, Bucharest, Romania

<sup>3</sup>Advanced Polymer Materials Group, Politehnica University, Romania

<sup>4</sup>Faculty of Applied Chemistry and Materials Science, Politehnica University of Bucharest, Romania

**Objectives:** Population incidence of periodontal disease is high, being associated with other severe pathologies and side effects during pregnancy. Antimicrobial agents are a reliable option for non-surgical periodontitis treatment. Periodontal administration is a topical alternative to antimicrobials systemic administration, ensuring a direct and controlled drug delivery to maintain a sufficient and effective concentration, also important to control pathogens proliferation rate. In this context, the goal of this paper is the design and characterization of some spongy matrices based on collagen, hyaluronic acid and metronidazole for local periodontitis therapy.

**Methods:** Type I fibrillar collagen gel was extracted from calf hide. The spongy matrices were obtained by freeze-drying of composite gels with the same collagen concentration and different metronidazole and hyaluronic acid concentrations. All samples were cross-linked with the same glutaraldehyde amount. Topical biocomposites were evaluated by spectral (FT-IR), morphological (water absorption and optical microscopy), and goniometric (contact angle) analysis. The *in vitro* metronidazole release was performed with a sandwich device adapted to a paddle dissolution equipment.

**Results:** The FT-IR spectra showed the peak characteristics for collagen structural organization, indicating the preservation of collagen triple helix during sample preparation. Optical images displayed for all samples a specific fibrillar structure with interconnected pores presenting various dimensions and shapes. All topical supports presented a good water-uptake, and the goniometric analysis revealed an adequate wetting capacity of spongy surface that facilitates the absorption medium penetration in the porous structure, and consecutively drug diffusion in gel network. The kinetic data obtained for metronidazole release fitted the Power law model, evidentiating a non-Fickian transport mechanism of the drug. The kinetic profiles were influenced by drug and hyaluronic acid concentrations.

**Conclusions:** Based on the results obtained, the designed biocomposites could be potentially used as a

beneficial and effective alternative in periodontitis treatment.

**Acknowledgement:** The authors acknowledge the financial support from the project CNFISF-DI-2021-0300, RDI Capabilities consolidation at Institutional level of the multidisciplinary research teams involved in the sustainability of UMFCF priority research directions.

## ID259 Defining the Impact of Surfactant/Cosurfactant Mixture in the Development Process of New Oil in Water Microemulsions for Topical Application

Marina-Theodora Talianu<sup>1</sup>, Maria-Cristina Anicescu<sup>1</sup>, Lacramioara Popa<sup>1</sup>, Mihaela Violeta Ghica<sup>1</sup>, Cristina-Elena Dinu-Pirvu<sup>1</sup>, Valentina Anuta<sup>1</sup>, Razvan-Mihai Prisada<sup>1</sup>

<sup>1</sup>Department of Physical and Colloidal Chemistry, Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Our research was based on the development and evaluation of some biocompatible oil in water (O/W) microemulsions with salicylic acid. The influence of surfactant/cosurfactant (S/CoS) mixture was studied to discover the internal structure of microemulsions, defining them as potential topical vehicles for acne therapy.

**Methods:** In the formulation plan, Tween 80 13.35%-26.65% was selected as primary surfactant, in association with low levels of lecithin 0.1%-0.5%, and propylene glycol 6.69%-13.35%. The mixture was suitable to solubilize salicylic acid 0.5%, and oat oil 1-2%. Hyaluronic acid 1% was added as hydrophilic molecule, increasing their biocompatibility. To obtain O/W systems, water titration method was applied. Stability area of microemulsions was represented using a pseudoternary phase diagram. Preliminary parameters were assessed: pH, conductivity, and refractive index. Specific determinations as zeta potential, and dynamic light scattering were further performed. For each microemulsion, it was studied the rheological behavior, being associated with an extensive goniometric study.

**Results:** Microemulsions were stable, with clear or slightly opalescent appearance. We reported the possibility to obtain O/W microemulsions with the minimum quantity of S/CoS of 20.1% up to 40.3%. pH values, conductivity, and refractive index were assessed as stability parameters with high importance for microemulsions physical properties. Mean particle size was placed in the nanometric range. From a rheological point of view, Newtonian behavior was specific for fluid systems. It was proposed a conceptual basis of critical quality attributes for topical microemulsions concerning connections of flow behavior with superficial properties and wettability characteristics at the contact with biointerfaces.

**Conclusions:** Microemulsions with salicylic acid were prepared and physically characterized as fluid

systems for acne alleviation. The study revealed the possibility to obtain microemulsions with minimum amount of S/CoS mix and high stability in time.

**Acknowledgement:** The authors acknowledge the financial support from the project CNFISF-DI-2021-0300, RDI Capabilities consolidation at Institutional level of the multidisciplinary research teams involved in the sustainability of UMFCF priority research directions.

## ID281 Formulation and Evaluation of Anti-Allergic Tablets Obtained from Herbal Products

Catalina Ancuta Fita<sup>1</sup>, Dumitru Lupuliasa<sup>1</sup>, Emma Adriana Ozon<sup>1</sup>, Teodora Dalila Balaci<sup>1</sup>, Andreea Irina Chelariu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** This experimental study aimed to obtain the oral uncoated tablets, with anti-allergic action, by the direct compression method.

This preparation has been designed to alleviate the unpleasant effects that occur in allergies, especially in allergic rhinitis, by combining active plant principles in powder form from ginger (*Zingiber officinale*), black cumin seeds (*Nigella sativa*), spirulina (*Spirulina platensis*), dry extract from Japanese acacia flower buds (*Sophora japonica*) and nettle tincture (*Urtica dioica*).

**Materials and methods:** For compression of these active ingredients have used a mixture of diluent excipients, binders and directly compressible disintegrants (Excipress™ SD2, PVP, Avicel PH 101).

It was necessary to add lubricant (magnesium stearate) and glidant (talc) to improve the flow and to avoid fragmentation of the tablets at the exit of the mould.

To analyze the characteristics of the obtained tablets, we performed the quality control tests of the uncoated tablets provided in the literature, determining the organoleptic properties, mass uniformity, disintegration time, pH value, hardness and friability.

**Results:** Organoleptic analysis of the prepared tablets led to the following results: uncoated, compact, disc-shaped tablets smooth, flat, 6 mm diameter, light green with pigmentation, homogeneously distributed, with the characteristic odour and spicy and aromatic taste, due to the ginger powder and black cumin. It was observed that these tablets correspond to the norms for the individual mass and friability. The analysis of the physical parameters of the tablets showed that they did not show large variations of size (diameter, height) and hardness, which corresponded to the quality conditions provided by the literature. Antiallergic tablets correspond to the official norms for disintegration.

**Conclusions:** That proposed formula tablet preparation can be a starting point for the industrial production of tablets with antiallergic action, to be used in the therapy of allergic respiratory diseases to improve the quality of life of patients.

## ID347 Comparative Dynamic Release of Ascorbic Acid in Prolonged-Release Formulations

Anca Lucia Pop<sup>1</sup>, Mariana-Ana Pali<sup>2</sup>, Dumitru Cauni<sup>2</sup>, Paula Hentes<sup>2</sup>, Osanu Liana<sup>2</sup>, Ionita, Ana Corina<sup>1</sup>, Elena Morosan<sup>1</sup>, Denisa Udeanu<sup>1</sup>, Magdalena Mititelu<sup>1</sup>, Simona Crisan<sup>1,2</sup>

<sup>1</sup>Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>R&D Center, AC HELCOR, Baia Mare, Romania

**Objective:** The present paper aimed to study the release rate from three newly developed retard formulations containing ascorbic acid in different concentrations compared to the reference products available on the Romanian pharmaceutical market.

**Materials and Methods:** We studied three newly developed formulations containing 600 mg, 1000 mg and 1500 mg ascorbic acid/prolonged release tablets compared to the reference products containing the same amount of ascorbic acid. The dissolution was performed for the 12h sample using a United State Pharmacopoeia (USP)-22 Type I dissolution apparatus at 37 ± 0.5°C and 50 rpm in purified water (900 ml) as dissolution media. From the dissolution medium, 5 ml of the sample was withdrawn at specific time intervals (1, 8, and 12 hours) and replaced with an equal volume of fresh medium (5 mL) to maintain constant media volume. Each sample was analyzed by iodine titration using starch as an indicator.

**Results:** The results have shown that in the newly developed formulation containing 600 mg ascorbic acid/prolonged release tablets, the percentage of ascorbic acid dissolved after 12h was 100.32%, compared to 97.61% for the reference product. The newly developed formulation containing 1000 mg ascorbic acid/prolonged-release tablets also presented a percentage of ascorbic acid dissolved of 98.00% compared to 93.80 % for the reference product. The third formulation containing 1500 mg ascorbic acid presented a dissolved percentage (100.32%) significantly increased compared to the reference product (88.80%).

**Conclusions:** The newly developed formulations (600 mg, 1000 mg, and 1500 mg of ascorbic acid) ensure a good release of the ascorbic acid after 12h and show similarity with the reference products.

## ID348 Validation of a Liquid Chromatographic Method for Determination of Related Substances in Loperamide Hydrochloride Tablets

Anca Lucia Pop<sup>1</sup>, Mariana-Ana Pali<sup>2</sup>, Dumitru Cauni<sup>2</sup>, Paula Hentes<sup>2</sup>, Simona Crisan<sup>1,2</sup>

<sup>1</sup>Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>R&D Center, AC HELCOR, Baia Mare, Romania

**Objective:** The present paper aimed to establish and validate a high-performance liquid chromatography (HPLC) method to determine related substances in loperamide hydrochloride tablets.

**Materials and Methods:** The chromatographic system consisted of Nucleosil (C 18) column (100 × 4.6 mm; 3 µm), 17.0 g/L solution of tetrabutylammonium hydrogen sulfate as mobile phase A and acetonitrile as mobile phase B at 1.0 mL/min flow rate, 35°C column temperature and UV-VIS detection at 220 nm wavelength. The method was validated as per ICH guidelines for specificity, selectivity, the limit of detection and quantification, linearity, accuracy, precision, and robustness. In addition, Loperamide samples and placebo were subjected to different stress conditions of hydrolysis (acid and base), oxidative and thermal stress degradation.

**Results:** Parameters that define peaks (retention time, height, area, peak width at half height) as well as system performance parameters (asymmetry factor, number of theoretical plates) were reproducible, showing a relative standard deviation below 4% (for time retention area, peak area). Placebo did not show any signal at loperamide retention time. Considerable degradation was found to occur in hydrolysis and oxidative stress degradation. The detection (LOD) and quantification (LOQ) limits were 0.177 µg/ml (0.009%) and 0.591 µg/ml (0.03%) respectively. Linear regression analysis showed a good linear relationship between response and concentration in the range 10-29.98 µg/ml with a correlation coefficient higher than 0.999.

**Conclusions:** The results proved that the method is suitable for determining related substances in loperamide hydrochloride tablet dosage form and provides a safer and easier solution for quality control testing and stability studies for the related substances test.

## ID349 Applications of Chronopharmacology in Therapeutic Practice

Cornel Chirita<sup>1</sup>, Camelia-Elena Codaş<sup>1</sup>, Cristina Daniela Marineci<sup>1</sup>, Simona Negres<sup>1</sup>

<sup>1</sup>Discipline of Pharmacology and Clinical Pharmacy, Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Aim of the research:** An analysis of the literature on the main parts of chrono-pharmacology to demonstrate the benefits of chronotherapy through studies. The choice of the subject was based on the fact that the drug therapies enjoyed by most patients today are rather little oriented towards a dosage based on daily variations in biological rhythms, without taking into account certain aspects that could have a major impact on effectiveness of therapy.

**Method:** Literature analysis of the main classes of drugs used in clinical practice that should be administered according to the endogenous biorhythms of the body.

**Results:** Chronotherapy must not only involve newly developed drugs, but also the improvement of existing ones in a biologically effective way. The current systems drugs delivery used in chronotherapy require strict adherence by patients to the recommended time (s) of administration to achieve the desired results. Thus, the main purpose of chronotherapy is highlighted, that of attenuating side effects and maximizing the effectiveness of a drug by synchronizing the time when drugs are administered with the patient's natural circadian rhythm. Based on data from the literature, chrono-pharmacology is applicable in many pathologies, and the chronotherapeutic perspective is gaining increasing importance in the medical world

**Conclusion:** The adoption of chronobiological strategies have the potential to improve the evolution of certain diseases, to reduce the adverse effects of drugs, but also to increase patients' adherence to therapy. Pharmacists also have a key role in this process of improving medical services, by acquiring the knowledge and adequate information of patients regarding the administration of medicines so that the chrono-pharmacological principles are successfully implemented. In other words, we can define chrono-pharmacology as „the right medicine at the right time”.

## ID366 Quality Control of Piracetam Film-Coated Tablets

Maria Barca<sup>1</sup>, Anne-Marie Ciobanu<sup>1</sup>, GTA Burcea Dragomiroiu<sup>1</sup>, Daniela Elena Popa<sup>1</sup>, Luana-Mihaela Popa<sup>1</sup>, Anca Lucia Pop<sup>1</sup>, Carolina Negrei<sup>1</sup>

<sup>1</sup>Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** The aim of this study was to develop some sensitive, fast and accessible methods of analysis for the quality control of piracetam film-coated tablets available on the Romanian pharmaceutical market.

**Methods:** Three pharmaceutical products containing piracetam 800 mg / film-coated tablets were studied. Identification of piracetam was done by a UV spectrometric method (by recording the spectra of standard and sample solutions using a Jasco V-530 spectrophotometer). For the assay of piracetam a UV spectrometric method ( $\lambda_{\text{max}} = 220 \text{ nm}$ ) was developed and validated.

**Results:** The identification of piracetam by UV spectra confirm the positive identification of the piracetam ( $\lambda_{\text{max}} = 220 \text{ nm}$ ) in all analyzed pharmaceutical products.

The assay method was validated by the following parameters: specificity, precision (RSD <2%), linearity, accuracy, and quantification limit. A linear regression curve with correlation coefficient  $r^2 = 0.9922$  was obtained in the range of 0.1000-0.3200 mg/mL. The external standard method was used for the quantification of piracetam in film-coated tablets. Experiments were performed in triplicate. The quantity of piracetam obtained in the film-coated tablets which were considered in the study subscribes within the admissible limits of 95.0-105.0% (100.23%, 99.65%, 99.03%) of the stated amount.

**Conclusions:** Identification of piracetam by UV was positive. The content of piracetam was in line with the requirements of European Pharmacopoeia 10-th edition (95.0 %-105.0 % of stated amount) for all the analyzed formulations.



## ID180 Immunogenetic Background of Chronic Lymphoproliferative Diseases

Maria Tizu<sup>1,2</sup>, Andreea Mirela Caragea<sup>1</sup>, Ion Maruntelu<sup>1,2</sup>, Adriana Talangescu<sup>1,2</sup>, Mirela Maria Iacob<sup>2</sup>, Dimitri Apostol<sup>1</sup>, Ana Moise<sup>1,2</sup>, Razvan Stoia<sup>3</sup>, Zsofia Varady<sup>4</sup>, Alexandru Bardas<sup>1,3</sup>, Cristina Georgiana Jercan<sup>4</sup>, Letitia Elena Radu<sup>1,4</sup>, Anca Colita<sup>1,4</sup>, Daniel Coriu<sup>1,3</sup> and Ileana Constantinescu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Centre for Immunogenetics and Virology, Fundeni Clinical Institute, Bucharest, Romania

<sup>3</sup>Department of Hematology, Fundeni Clinical Institute, Bucharest, Romania

**Introduction:** Chronic lymphocytic leukaemia (CLL) is an incurable malignancy and one of the most common B-cell malignancies found in adults. During the last decades, the research in the field of CLL has been focus on finding new reliable markers that can guide clinicians in treatment decisions or help predict the prognostic of the disease. Although CLL is estimated to have one of the highest familial risks from a hematologic malignancy, the genetic basis for this predisposition is not clearly defined. The HLA genes play an important role in immune surveillance and may impact the ability of the immune system to target the malignant cells for T cell-mediated elimination. Because HLA gene polymorphism is associated with autoimmune diseases, infectious diseases, and cancer, researchers have found it appropriate to investigate CLL's association with HLA genes.

**Method:** If so, far high resolution SSP and SBT methods have been used for HLA genotyping in CLL, the present study aimed to investigate this association using Next Generation Sequencing (NGS) for better characterization of patients including information about non-coding regions. We performed the genotyping of CLL patients admitted in our clinic, which were compared with 60 controls from the donor registry.

**Results:** We have identified several statistically significant associations between CLL and HLA alleles reconfirming the predisposing role of HLA-A\*02:01 and HLA-DRB4\*01:01 alleles in Caucasian patients. We have also identified the haplotype DRB4\*01:01~DRB1\*07:01~DQB1\*03:03 as being associated with chronic lymphoproliferative diseases.

**Conclusions:** Our analysis provides a comprehensive assessment of the role of HLA variation influencing CLL. Implementation of the NGS technology contributed to the exponential increase of genomic information, supporting the understanding of CLL molecular pathways and response to therapy.

## ID181 Molecular Analysis of Hla Genes and Their Clinical Impact in Patients with Chronic Hepatitis B Virus Infection

Adriana Talangescu<sup>1,2</sup>, Dimitri Apostol<sup>1</sup>, Mirela Maria Iacob<sup>1</sup>, Andreea Mirela Caragea<sup>1</sup>, Ion Maruntelu<sup>1,2</sup>, Maria Tizu<sup>1,2</sup>, Carmen Preda<sup>1,3</sup>, Secil Omer<sup>1,4</sup>, Victor Stoica<sup>1,3</sup>, Mircea Diculescu<sup>1,3</sup> and Ileana Constantinescu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Centre for Immunogenetics and Virology, Fundeni Clinical Institute, Bucharest, Romania

<sup>3</sup>Department of Gastroenterology and Hepatology, Fundeni Clinical Institute, Bucharest, Romania

<sup>4</sup>Department of Gastroenterology, „Sf. Ioan” Emergency Clinical Hospital, Bucharest, Romania

**Background and aim:** Hepatitis B virus (HBV) infection is a major health problem worldwide and represents a leading cause of cirrhosis and hepatocellular carcinoma. The human leukocyte antigen (HLA) system is one of the most important host factors that are correlated with the clinical course of HBV infection. A better understanding of HLA polymorphism relevance in HBV infection outcome would enable us to elucidate the roles of HLA genes obtained by next-generation sequencing (NGS).

**Methods:** Our study included 78 HBV patients and 100 healthy controls. Out of 78 patients, 58 had positive hepatitis B surface antigen (HbsAg) for more than 6 months (Persistent group). Twenty patients had negative HbsAg and HBV DNA, but were positive for anti-HBc and anti-HBs (Recovered group). The HLA typing for all the samples was performed using next-generation sequencing reagents provided by Immucor (Mia Fora NGS Flex) run on the Miniseq system platform.

**Results:** HLA class II loci were significantly associated with susceptibility to persistent HBV infection DQA1\*05:01, DQB1\*03:01, DPB1\*09:01, DRB1\*11:02. We also observed that HLA class I (A\*03:01) and class II (DRB1\*13:01, DRB1\*13:02, DQB1\*02:01,DPB1\*02:01) alleles were associated with protection or viral clearance.

**Conclusions:** Specific HLA allele variants may have different impact on clinical outcomes of chronic HBV infection.

## ID185 The Importance of Stool Examination in Diagnosing Digestive Parasitosis

Violeta Corina Cristea<sup>1</sup>, Loredana Gabriela Popa<sup>1</sup>, Ionut Pecete<sup>2</sup>, Alin Tatu<sup>3</sup>, Andreea Alexandru<sup>4</sup>, Mircea Ioan Popa<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Synevo Central Laboratory, Bucharest, Romania

<sup>3</sup>Department of Pharmaceutical Sciences, Faculty of Medicine and Pharmacy, „Dunarea de Jos” University, Galati, Romania

<sup>4</sup>„Regina Maria” Central Laboratory, Bucharest, Romania

**Objectives:** Parasitic diseases play an important role in medical pathology. The incidence of these diseases varies with the geographical region and also with the living standard of the population. The study aims to highlight the incidence of intestinal parasites by performing macro and microscopic examination of feces.

**Methods:** The samples were collected in sterile containers provided with a small shovel for collection. The transport took place the same day or in 24h maximum since the sampling process, with overnight storage in refrigeration conditions. The test was performed both by macroscopic examination of the sample, and microscopic through direct wet mount examination in saline and Lugol's solution.

**Results:** A total of 10.000 samples from patients of different ages were examined, from Bucharest. The prevalence of positive tests was 48 cases, representing 0.48%, with the following distribution: *Giardia intestinalis* 40 cases (0.4%), *Enterobius vermicularis* 5 cases (0.05%), *Teniae* spp. 2 cases (0.02%), *Ascaris lumbricoides* 1 case (0.01%). The distribution of positivity by sex shows a majority of cases in the male population (56.25%) compared to females (43.75%). The incidence by age groups shows a higher positivity in adults (18-70 years) with a number of 35 cases (72.91%), compared to positive cases in young children (1-7 years) or adolescents (8-18 years), respectively 14.58% and 12.51%.

**Conclusions:** The stool examination remains a fast and cheap method of examination in comparison with the others and also plays an important role in diagnosing digestive parasitosis. *Giardia intestinalis* is one of the most frequent parasites involved in the samples we studied. Our study obtained the maximum incidence in adults, a fact which is also revealed by other international publications. Other studies regarding this pathology are also needed in the near future for a better understanding of the transmission and prevention of diseases.

## ID187 Coronavirus, Lifestyle and Anxiety in a Group of Romanians

Ana-Maria Piersinaru<sup>1</sup>, Corina-Aurelia Zugravu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

The COVID-19 pandemic had special consequences not only in terms of morbidity and mortality, but also due to prevention measures taken at the national level, which decisively influenced all components of the citizens' lifestyle. Moreover, communication has also made a detrimental contribution, increasing the level of anxiety. In the present study, we tried to highlight the consequences of the pandemic and of the measures of isolation and social distancing on the lifestyle in a group of Romanians, in relation with perceived anxiety. We used the questionnaire method, using an international one, translated and validated for Romania. The questionnaire was distributed online, the final group of respondents, resulting from the snowball method, being of 1002 individuals. The results were statistically processed using the SPSS software. The group was dominated by women and people from urban areas. Perceived anxiety levels were significantly increased during the quarantine period, with the majority (60%) of respondents reporting such a change. We could observe that the self-perceived anxiety level of the respondents was statistically significant and positively correlated with the volume of food ingested and with the intake of snacks between meals, with a special emphasis on salty snacks, soft drinks, sweets, all with high caloric and low nutritional density ( $p = .001$ ). Individuals with high levels of anxiety took significantly fewer immunity supplements and consumed fewer servings of vegetables and fruits ( $p = .007$ ). In the case of smokers, the increased level of anxiety increased the number of cigarettes smoked. Also, a lower level of anxiety increased the daily duration of exercise and improved sleep quality. The results are consonant with those from other countries (Poland, India, Denmark, Spain). In conclusion, as better control of the pandemic is achieved, public health and educational measures are urgently needed to correct these very problematic issues.

## ID199 The Heterogeneity of the Signaling Pathways underlying Vascular Myogenic Tone

Angela Madalina Lazar<sup>1</sup>

<sup>1</sup>Department of Functional Sciences, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

Myogenic tone represents a fundamental component of vascular tone. A relatively constant maintenance of vascular blood flow is ensured during blood pressure fluctuations through the autoregulation of the myogenic tone, by intrinsic capacity of smooth muscle cells to contract and relax in response to local vascular transmural pressure variations. Myogenic tone signaling pathways alteration can lead to important regional and general consequences.

**The aim of the study** was to investigate the particularities of the signaling pathways in various areas of microcirculation, essential for generating efficient therapies for various circulatory disturbances.

**Methods:** This work was based on advanced graphical representation of the signaling pathways determining myogenic tone in cerebrovascular and mesenteric circulation and extensive literature research to facilitate functional significance deciphering.

**Results:** Increased myogenic tone in cerebral parenchymal arterioles ensures a high dilative reserve that is at the base of functional hyperemia in increased neuronal activity areas (neurovascular coupling), but also determines the necessity of signaling mechanisms to avoid excessive vasoconstriction that could lead to ischemia. The important blood flow in mesenteric circulation is due to a low myogenic tone, but accompanied by an increased vasoconstrictive reserve that can ensure a blood autotransfusion in special circulatory circumstances. The increased stimulation of TRPM4 through Rho-associated protein kinases with depolarizing effect on VSMCs, the high  $\text{Ca}^{2+}$  influx can be a cause of elevated myogenic tone in parenchymal arterioles. BKCa intense activity with hyperpolarizing action reduces  $\text{Ca}^{2+}$  influx, decreasing myogenic tone in mesenteric arcade.

**Conclusions:** The presentation of a general model of the signaling pathways generating myogenic tone must be done with carefulness as it presents a great heterogeneity, multiplicity, independence and an alternative character in different vascular territories. Indeed, a good knowledge of the specific features of regional signaling pathways will allow a selective, effective therapeutic targeting of various local circulatory disturbances.

## ID212 Highly Aggressive Cutaneous Leiomyosarcoma in a Young Adult

Dana Tapoi<sup>1</sup>, Maria Sajin<sup>1,2</sup>, Mariana Costache<sup>1,2</sup>, Mihaela Zaharia<sup>3</sup>, Adrian Dumitru<sup>1,2</sup>

<sup>1</sup>Department of Pathology, Emergency University Hospital, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Department of Plastic and Reconstructive Surgery, Emergency University Hospital, Bucharest, Romania

**Objective:** Cutaneous leiomyosarcoma is a rare dermal neoplasia, thought to arise from arrector pili smooth muscles. It is usually diagnosed in older males, most frequently on the trunk or lower extremities. Due to their rarity and generally indolent growth, they can be easily misdiagnosed or diagnosed in advanced stages when complete tumor excision may be hard to obtain, therefore increasing local recurrence rates. The objective of this report is to gain further insight into the clinical behavior and histopathology of cutaneous leiomyosarcomas by emphasizing the risks of local recurrence in order to improve the management of these tumors.

**Method:** We report the case of a 27-year-old male with a recurrent cutaneous leiomyosarcoma on the posterior thorax. The patient was treated with complete local excision for the initial tumor but still presented three years later with a new growth along the incision scar. The tumor was once again removed by a wide local excision. Standard histopathological analysis and immunohistochemical tests were performed in order to reconfirm the diagnosis.

**Results:** Histopathological analysis revealed a moderately differentiated growth of eosinophilic spindle cells with hyperchromatic cigar-shaped nuclei and occasional mitotic figures. The surgical margins were negative for tumor cells. Immunohistochemically, the tumor was positive for smooth muscle actin and desmin, thus confirming the diagnosis of leiomyosarcoma.

**Conclusions:** Even though cutaneous leiomyosarcomas are considered borderline tumors according to the WHO Classification of Skin Tumors and have a low potential for metastasis, they can still be locally aggressive and have high levels of recurrence. Hence, even slow growing cutaneous tumors should be treated promptly with complete surgical excision and thorough histopathological analysis so as not to miss a potential leiomyosarcoma. In such cases, regular follow up is recommended for assessing possible recurrence.

## ID221 Use of Oxacillin to Inactivate Natural and Acquired Cephalosporinases (AmpC) in Enterobacterales: a Dose Ranging and Validation Study

Andrei-Alexandru Muntean<sup>1,2</sup>, Edgar-Costin Chelaru<sup>1,2</sup>, Stefan-Decebal Guta<sup>1,2</sup>, Costin Stefan Caracoti<sup>1,2</sup>, Bogdan-Florin Ciomaga<sup>1,2</sup>, Madalina Maria Muntean<sup>1,2</sup>, Mircea Ioan Popa<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Cantacuzino” National Medico-Military Institute for Research and Development, Bucharest, Romania

**Objectives:** Class C beta-lactamases, especially the chromosomally encoded cephalosporinases (AmpC), can lead to antibiotic therapeutic failure. High level AmpC producers, in conjunction with ESBL and decreased permeability can lead to carbapenem resistance. As such, it is important to distinguish carbapenemase producing Enterobacterales (CPE) from AmpC hyper-producers. Use of Cloxacillin-infused Mueller Hinton agar (MHC, 250 mg/L) is a validated method to identify such strains. Herein, we investigate the use of oxacillin, which is readily available in our country, as a method to distinguish between high level AmpCs and CPEs.

**Methods:** Disk-diffusion (Kirby-Bauer) antibiograms were prepared and results were compared using standard Mueller Hinton agar (MHA) and to MHC. The concentration of Oxacillin-infused Mueller Hinton agar (MHO) which showed the closest results to Cloxacillin-infused MH agar was chosen to test a total of 108 well-characterized strains including 34 carbapenemase producers. Results were analyzed using the R statistical software, using ANOVA the test to compare between groups and then Tukey's HSD for post-hoc analysis.

**Results and discussion:** Use of 350 mg/L Oxacillin-infused Mueller-Hinton agar plates proved to be efficient in differentiating between AmpC producers and non-producers. Results showed significant differences between MHA, MHO and MHC. Post-hoc analysis showed no significant difference between MHO and MHC for each of the antibiotics tested.

**Conclusions:** Use of Mueller-Hinton agar plates with added oxacillin (350 mg/L) is a cheap way to identify AmpC producers and to differentiate from CPEs.

## ID245 Trend Analysis of Alcohol Attributable Diseases in National DRG Hospital Data

Silvia Florescu<sup>1</sup>, Simona Nicoleta Musat<sup>1</sup>, Carmen Camelia Sasu<sup>1</sup>, Marius Ciutan<sup>1</sup>, Constanta Mihaescu Pintia<sup>1</sup>, Cristina Anca Pavel<sup>1</sup>, Anca Haldan<sup>1</sup>, Georgeta Daniela Popovici<sup>1</sup>

<sup>1</sup>National School of Public Health Management and Professional Development, Bucharest, Romania

**Objectives:** Alcohol-attributable diseases, derived from an unhealthy behaviour, impact quality of outcomes and hospital services costs. Relied on records from national Romanian DRG database 2015-2021, we computed and interpreted by many methods the trends of Alcohol related ICD-10 Codes, 100% alcohol attributable including chronic causes (alcoholic-psychosis/myopathy/gastritis/liver disease; alcohol-abuse/dependence syndrome/polyneuropathy/ cardiomyopathy; alcohol-induced acute and chronic pancreatitis, foetal alcohol syndrome, foetus and new-born affected by maternal use of alcohol) and acute (alcohol poisoning, suicide by exposure to alcohol).

**Methods:** Monthly, annually trends of admissions, recurrent episodes, Length of Stay (LOS), survival status, DRG codes were analysed by patients' gender, age, residence, hospital and ward characteristics (teaching, emergency, general).

**Results:** Plots of trends revealed after March 2020, a dramatic drop of admissions, then a slight constant monthly increase. Chart patterns revealed high recurrence for alcohol abuse, dependence, alcoholic psychosis, cirrhosis, high monthly rates for those of 50-64 years, a 3 times higher likelihood for admission of male, influence of age, type of hospital on outcomes. Different trend analysis methods (average ratio, multiple, Poisson regression, time series) were applied, trend rates and errors were compared.

**Conclusion:** In trends analysis, the preferred computation methods are: Average Ratio when any two values points varies by a stable rate; Multiple Regression for identifying various factors influencing the trend; Time Series for recurrence aspects; Poisson Regression for both fluctuations across time and at each time point. A reliable model of analysis for hospital trends can help in doing accurate forecasting of the volume, costs of services, identifying high-risk subgroups. Trend analysis can predict future direction of various variables based on historical trends if appropriate methods and models are used and can support the monitoring and decision making in health care system.

## ID273 Medical-Legal Psychiatric Features of Offenders Imprisoned for Domestic Violence

Oana-Maria Isaila<sup>1,2</sup>, Sorin Hostiuc<sup>1,2</sup>, Mihai Teodor<sup>2</sup>, George Cristian Curca<sup>1,2</sup>

<sup>1</sup>Department of Legal Medicine and Bioethics, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Mina Minovici” National Institute of Legal Medicine, Bucharest, Romania

**Background and Objectives:** Many studies have revealed a direct correlation between aggressive behavior and personality disorders. In the phenomenon of domestic violence, the attention is mainly focused on the victim and there are not so many studies regarding the offenders. The aim of this study is to analyze the psychiatrically diagnosed characteristics of subjects imprisoned for acts of domestic violence (DVOs) compared to other types of aggressive behaviors (OVOs).

**Material and Methods:** We performed a retrospective study using psychiatric medical-legal reports made to the National Institute of Legal Medicine “Mina Minovici” Bucharest between 2016 and 2020.

**Results:** We included 234 cases in our analysis, from which 132 (56%) were domestic violence offenders (DVOs) and 102 (44%) were violence offenders imprisoned for other aggressions (OVO). Of the DVOs, 3 (2%) had unsocialized conduct disorder, while 10 (10%) of the OVOs had the same diagnosis with a statistically significant difference (chi-square = 6.22,  $p = .013$ ). An antisocial personality disorder diagnosis was encountered in 17 cases (13%) in the DVO group, compared with 33 cases (32%) in the OVO group, which was statistically highly significant (chi-square = 13.0,  $p < .001$ ). In the present study there were no statistically significant differences in the cases of the other psychiatric diagnoses between the DVO and OVO groups. Also, there were no statistically significant differences in what concerns enforcing safety measures and discernment.

**Conclusion:** In our study, DVOs were more numerous, had significantly less unsocialized conduct disorder, and significantly less antisocial personality disorder compared to OVOs.

## ID282 Electrochemotherapy Effects on a Multicellular Spheroid of Glioblastoma/Peripheral Bone-Marrow Cells

Mircea Bogdan Matei<sup>1,3</sup>, Artsiom Klimko<sup>1</sup>, Christien Oktaviani Matei<sup>1,2</sup>, Tudor Savopol<sup>2</sup>, Mihaela Georgeta Moisescu<sup>1,2</sup>

<sup>1</sup>Department of Biophysics and Cellular Biotechnology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Excellence Centre for Research in Biophysics and Cellular Biotechnology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Department of Physiology and Neuroscience, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Electroporation (EP) refers to application of short electrical pulses leading to transient permeabilization of the cell membrane which can be leveraged for cancer treatment. By combining EP with cytotoxic drug administration, termed electrochemotherapy (ECT), the dosages of chemotherapy can be reduced to minimize side effects without compromising efficacy. Furthermore, EP is capable of inducing immunogenic cell death, with responses to ECT being dependent on a functional immune system.

The purpose of this study was to evaluate whether different ECTs can influence the interactions of monocyte enriched peripheral bone-marrow cells (PBMC) with tumoral cells.

**Methods:** Triplicates of U87 MG spheroids were grown in round bottom 96 well plates coated with 1% agarose at a seeding density of 10 000 cells/well for 9 days. Further on they were reversibly electroporated in presence of bleomycin, cisplatin, or temozolomide. After the EP event, spheroids were co-seeded with PMBC freshly isolated from peripheral venous blood of a healthy donor. Controls consisted of spheroids exposed to EP only, PBMC only, and chemotherapy only. Evolution of spheroids was quantified by measuring their surface area obtained via optical microscopy and analyzed by a MATLAB plugin, throughout 16 days of follow-up.

**Results:** The expected cytotoxic effect of all three ECT protocols was obtained. PBMC presence had no supplementary effect on ECT cell killing. Interestingly, PBMC addition after membrane electroporabilization showed a significant spheroid surface area reduction even no chemotherapy was present; this reduction matched the levels of the three ECT protocols.

**Conclusions:** These findings suggest that EP creates favorable conditions for an immunogenic cell death mechanism: electroporated U-87 MG cells stimulate the evolution of naive monocytes into an anti-tumoral M1 phenotype and/or activates lymphocytes which drastically augments the tumoral cell killing effect.

## ID285 Tweaking a Known Murine Model of Temporal Lobe Epilepsy (TLE)

Bianca-Ioana Gutu<sup>1</sup>, Robert-Mihai Haret<sup>1</sup>, Miruna Rascu<sup>1</sup>, Vlad-Petru Morozan<sup>1</sup>, Stefan-Alexandru Tirlea<sup>1</sup>, Ana-Maria Matota<sup>1</sup>, Andrei-Vladimir Iacovache<sup>1</sup>, Adelina Pricopas<sup>1</sup>, Mihai Stancu<sup>1</sup>, Ana-Maria Zagrean<sup>1</sup>

<sup>1</sup>*Division of Physiology and Neurosciences, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania*

**Objectives:** Epilepsy is a neurological disorder characterized by a predisposition to generate epileptic seizures and the associated cognitive, psychological and social consequences. An epileptic seizure is a transient behavioural change objectively and subjectively manifested. Kainic acid (KA)-induced model of epilepsy is obtained by the stereotaxic intrahippocampal injection of 50 nL of KA solution (0.1  $\mu$ M), a dose that is considered standard. However, this intervention is encumbered by an increased mortality rate, sometimes reported in the literature as high as 50%. In this study, we aimed to decrease mortality by lowering the dose of KA while preserving the epileptic phenotype.

**Materials and methods:** We used 3-week-old male C57BL/6 wild-type mice in which different volumes (10nL/30nL/50 nL) of KA (epileptic group) or artificial cerebrospinal fluid (aCSF) (control group) were intrahippocampal administered. To quantify the epileptic phenotype, we used the Racine scale to assess the motor activity within the video recordings performed before (day 0) and 5 days after the KA administration, both during daytime and nighttime.

**Results:** The video analysis revealed a significant increase in the frequency of epileptic seizures on day 5 compared to day 0 in the epileptic group for all three injected volumes ( $p=0.0070$ ), with no difference in the epileptic activity between daytime and nighttime. The control group showed no statistical difference in the motor activity during all experimental days regardless of the injected aCSF volume. There was no mortality recorded at 14 days post-injection in both groups.

**Conclusions:** Our study showed a significant difference in the motor expression between the epileptic group and the control group independently of the injected volume. Importantly, the present results show that epilepsy can be induced with a smaller quantity of KA than the standard dose, a condition that could be in favor of low mortality in a larger group of animals.

## ID286 Long-term Electrophysiologic Recording in Epileptic Mice - a Mix of Creativity and Cost-efficiency

Ana-Maria Matota<sup>1</sup>, Vlad-Petru Morozan<sup>1</sup>, Stefan-Alexandru Tirlea<sup>1</sup>, Bianca-Ioana Gutu<sup>1</sup>, Andrei-Dan Iacovache<sup>1</sup>, Adelina Pricopas<sup>1</sup>, Robert Haret<sup>1</sup>, Miruna Rascu<sup>1</sup>, Catalina Sabina Cremeneanu<sup>1</sup>, Armand-Mihai Nicolicioiu<sup>1</sup>, Ana-Maria Zagrean<sup>1</sup>, Mihai Stancu<sup>1</sup>

<sup>1</sup>*Division of Physiology and Neurosciences, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania*

**Objectives:** Few articles in the literature tackle the issue of long-term neuroelectrophysiological (LTEphys) recordings in freely moving animals. LTEphys recordings (e.g., electrocorticography, electromyography) offer circadian rhythm tracking in animal models of disease and may better serve to assess the long-term effects of certain drugs. While there is considerable progress with wireless devices, or telemetric systems, the cost of such devices is still high (i.e., in the range of ten thousand to one hundred thousand EUR). Our objective is to develop a cost-effective alternative for such devices.

**Materials and methods:** In a drug-induced epilepsy model obtained using intrahippocampal injections of 50 nL kainic acid solution (0.1  $\mu$ M) (epileptic group,  $n=2$ ) or artificial cerebrospinal fluid (control group,  $n=3$ ), we recorded electrocorticographic and electromyographic tracings for 24 hours in mice. For this, mice were stereotactically injected and implanted with custom-made head stages (designed to be lightweight - around 0.5 grams, approximately 1-2% of animal's weight), to facilitate easy coupling of the animal to the data acquisition system and to provide zero movement restrictions. Using minimal resources (available in any electronic shop for an approximate price of 100 EUR) and a wire-based data acquisition system, we designed a self-run apparatus that counteracts the torsion developed in the system by rotating the wires module in the direction necessary to decrease the tension. We analyzed the data using a custom-made python script that semi-automatically classified the electrocorticographic tracing into normal, epileptic or artefacts.

**Results:** We obtained reliable, continuous 24 h electrocorticographic tracings that showed more epileptic spikes in the epileptic group ( $p < 0.05$ ) than in the control group. The video recordings showed zero torsion and unhindered animal movement.

**Conclusions:** The results show that the data acquired during these experiments is comparable to other wireless or short-wired, short-term data acquisition systems.

## ID300 Biological Effects of a Bionanocomposite Based on Silver Nanoparticles Obtained by Green Synthesis on Dermal Fibroblasts

Ionela Daniela Popescu<sup>1</sup>, Elena Codrici<sup>1</sup>, Dudau Maria<sup>1,2</sup>, Lucian Albulescu<sup>1</sup>, Ana-Maria Dobri<sup>1,2</sup>, Petruta Preda<sup>3</sup>, Diana Stan<sup>4,5</sup>, Lorena-Andreea Mateescu<sup>4</sup>, Dana Stan<sup>4</sup>, Marioara Avram<sup>3,4</sup>, Cristiana Tanase<sup>1,5</sup>, Ana-Maria Enciu<sup>1,2</sup>

<sup>1</sup>Department of Biochemistry, „Victor Babes” National Institute of Pathology, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Microfluidic Laboratory, National Institute for Research and Development in Microtechnologies, Bucharest, Romania

<sup>4</sup>DDS Diagnostic SRL, Bucharest, Romania

<sup>5</sup>Doctoral School, „Titu Maiorescu” University, Bucharest, Romania

<sup>6</sup>Faculty of Medicine, „Titu Maiorescu” University, Bucharest, Romania

**Objective:** to test the effect of a nanobiocomposite based on silver nanoparticles obtained by green synthesis from cinnamon extract (NpAgSCO-200) on the proliferation of human dermal fibroblasts.

**Material and method:** normal fibroblasts (HS27, ATCC) routinely grown as recommended in humidified atmosphere with 5% CO<sub>2</sub> at 37°C, were treated with successive dilutions of NpAg-SCO200 (100 mg/mL, 10 mg/mL, 1 mg/mL and 0.1 mg/mL). Cell viability and cell division rate were evaluated by videomicroscopy (Bio-station IM, Nikon). For each treatment, 9 adjacent fields were recorded. The measurement of the covered area was performed by post-acquisition analysis (NIS-Br Nikon and ImageJ). Cell adherence was quantified using the xCELLigence platform. Statistical analysis was performed using GraphPad v7 (OneWay Anova, post-hoc Tukey analysis).

**Results and discussions:** Using real-time videomicroscopy, we compared the number of cell divisions between control and treatment with NpSCO-200 at different concentrations. The bionanocomposite did not increase the rate of cell division, nor did it change the dynamics of the cell culture. In the first 24h, very few divisions are observed, both in control and in the treated cells. The following 12h are characterized by a sharp increase in the number of cell divisions. Of the treatments applied, the highest concentration also has the largest increase in the number of divisions. Moreover, an inhibitory effect on cell division is noted, with the decrease in dose. Next, we validated these experimental observations by electrical impedance. It was noted that at 100 mg/mL, the adherence of cells to the substrate decreases statistically significant, whereas at 0.1 mg/mL adherence is stimulated but without reaching statistical significance.

**Conclusions:** The tested bionanocomposite stimulated the adherence of treated cells, but does not induce cell proliferation.

**Acknowledgment:** This work was partially funded by Ministry of Research and Innovation grant: COP A 1.2.3./ID:P\_40\_197/2016, subsidiary contract no 925/2019 and PN19.29-01.04.

## ID310 The Effect of Arithmetic Stress and Taste on Arterial Blood Pressure

Rares Gabriel Grigore<sup>1</sup>, Madalina Iftimie<sup>1</sup>, Cristian Scheau<sup>1</sup>, Livia Gratiela Mihai<sup>1</sup>, Ioana Raluca Papacocea<sup>1</sup>, Mariana Catalina Ciornei<sup>1</sup>, Constantin Caruntu<sup>1</sup>, Ioana Anca Badarau<sup>1</sup>

<sup>1</sup>Physiology I, <sup>2nd</sup> Clinical Department, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** The number of patients with psychiatric and digestive tract disorders is rising in developed countries. The involvement of mental stress was identified in these conditions, leading to an increased interest in scientific studies on stress. The objectives of our study were 1) establishing the alterations of the studied cardiovascular markers caused by arithmetic stress; 2) measuring the effect of arithmetic stress on the cognitive threshold of the sweet, sour, salty, and bitter; 3) identifying statistically significant differences between the average values of taste sensitivity threshold before and after arithmetic stress.

**Method:** Our study was performed in the research laboratory of the Physiology I Discipline, 2nd Clinical Department of the “Carol Davila” University of Medicine and Pharmacy, Bucharest, between March and May 2021, abiding by the hygiene and COVID-19 safety regulations. The target group consisted of 25 subjects aged between 19 and 25 years old. The participants were informed regarding the study protocol.

**Results:** Systolic and mean arterial blood pressure showed significantly lower values after taste stimulation test II compared to blood pressure measurements obtained after arithmetic stress. Following arithmetic stress, the cognitive threshold for sourness decreased after taste stimulation test II compared to the threshold for sweetness.

**Conclusions:** The arithmetic stress test produced a significant decrease in the cognitive threshold of the sour taste and indifferent changes in sweet, bitter, and salty.

### ID311 The Effect of Arithmetic Stress and Olfactive Stimulation on Arterial Blood Pressure

Madalina Iftimie<sup>1</sup>, Rares Gabriel Grigore<sup>1</sup>, Cristian Scheau<sup>1</sup>, Livia Gratiela Mihai<sup>1</sup>, Ioana Raluca Papacoea<sup>1</sup>, Mariana Catalina Ciornei<sup>1</sup>, Constantin Caruntu<sup>1</sup>, Ioana Anca Badarau<sup>1</sup>

<sup>1</sup>Physiology I, 2<sup>nd</sup> Clinical Department, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** The purpose of this study is to demonstrate the response of the autonomous nervous system, which influences the activity of various physiological systems (e.g. cardiovascular, respiratory, renal) to cognitive and sensory (olfactive) stimuli via a minimally invasive approach. Our study aimed to evidence the effect of sensory (olfactive) and cognitive stimulation on heart rate and systolic and diastolic arterial blood pressure by comparing the values of mean, systolic, and diastolic blood pressure before and after sensory and cognitive stimulation.

**Method:** Our study was performed in the research laboratory of the Physiology I Discipline, 2nd Clinical Department of the “Carol Davila” University of Medicine and Pharmacy, Bucharest, between March and May 2021, abiding by the hygiene and COVID-19 safety regulations. The target group consisted of 25 subjects aged between 19 and 25 years old. The participants were informed regarding the study protocol.

**Results:** Heart rate significantly increases after sensory stimulation and decreases after cognitive stimulation. Systolic and diastolic arterial blood pressure significantly increases after cognitive stimulation and is indifferent to sensory stimulation.

**Conclusions:** Our research may present clinical applications in the treatment of stress or hyperactivity of the autonomous nervous system. When the subject cannot perform complex cognitive tasks (e.g. patients with major cognitive disorders) but the sensory pathways are intact, sensory (olfactive) stimulation might be a useful alternative for stimulating the autonomous nervous system.

### ID333 A Newly Developed Histopathologic Algorithm for Grading Ganglioglioma

Antonia Carmen Lisievici<sup>1</sup>, Tiberiu Augustin Georgescu<sup>2</sup>, Mihai Gheorghe Lisievici<sup>3</sup>, Alexandru Tascu<sup>4</sup>, Maria Sajin<sup>1</sup>

<sup>1</sup>Department of Pathological Anatomy, Emergency University Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Pathological Anatomy, „Alessandrescu-Rusescu” National Institute for Mother and Child Health, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Department of Pathological Anatomy, „Bagdasar Arseni” Emergency Clinical Hospital, Bucharest, Romania

<sup>4</sup>Department of Neurosurgery, „Bagdasar Arseni” Emergency Clinical Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Background:** Ganglioglioma represents an extremely rare central nervous system tumor, frequently arising in the temporal lobe, which is also known for its increased epileptogenic potential. The current WHO classification of the central nervous system divides gangliogliomas into benign and anaplastic, although until 2006 the entity of atypical ganglioglioma was also recognized. The present study aims to accurately define criteria for the diagnosis and grading of ganglioglioma, into a three-tier system.

**Methods:** The present retrospective study includes 51 cases of benign and anaplastic gangliogliomas, diagnosed between the years 2011 and 2020 in the Pathology Department of the Emergency Clinical Hospital Bagdasar Arseni. All the slides were thoroughly reviewed and complementary immunohistochemical studies were made, including CD34, Ki67 and BRAFV600E, to analyze the proliferative potential of each tumor. The analyzed histopathological parameters included: tumoral size, presence of glial and neuronal mitoses, microvascular proliferation, lymphocytic infiltrate, glial histological subtype, necrosis and hypercellularity.

**Results:** Implementing the proposed algorithm allows switching from a two-tier to a three-tier grading system and has led to a significant decrease in the mortality rate of the cases with benign ganglioglioma, from 23.08% to 8%. The difference of percentages stems from the reclassification of 27% of benign gangliogliomas into atypical ganglioglioma. The proliferative Ki67 index was with up to 8.04% higher in the cases of atypical ganglioglioma and with up to 14.29% in anaplastic gangliogliomas, compared with the cases of benign ganglioglioma. Additionally, a remarkable absence of immunoreactivity towards CD34 was noticed in cases of anaplastic gangliogliomas.

**Conclusion:** The proposed histopathological algorithm significantly reduces the mortality rate between those cases designated as benign gangliogliomas and, thus, warrants a more attentive surveillance of cases with atypical and anaplastic gangliogliomas. The absence of CD34 immunoreactivity should also be regarded as a possible negative prognostic factor in cases with atypical or anaplastic features.

## ID339 Lynch Syndrome - When Genetics Do Not Forgive, We Must Not Forget!

Oana Cristina Voinea<sup>1</sup>, Lucian George Eftimie<sup>2</sup>, Adrian Vasile Dumitru

<sup>1</sup>„Cantacuzino” National Institute for Medico-Military Research and Development, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Central Military Emergency University Hospital, Bucharest, Romania

<sup>3</sup>Emergency University Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Introduction:** Lynch Syndrome is a hereditary disorder with an autosomal dominant transmission. Its hallmark is represented by mutations in the repair genes MLH1, MSH2, MSH6 and PMS2. Unrepaired replication defects will materialize in adenocarcinomas developed at the level

- digestive tract, especially colon
- endometrium
- urothelium
- skin

at younger ages than their non-syndromic epidemiology.

**Objective:** Lynch syndrome awareness with the application of clinical and paraclinical laboratory criteria would generate an epidemiological definition of it in the territory of our country.

The medium and long-term impact, through effective prophylaxis and screening programmes will result in a substantial increase in the life expectancy of Lynch syndrome patients and their relatives.

**Materials and methods:** We evaluated the medical literature and we summerised the most important epidemiological features. We also searched in the registers from Pathology Department of 2 Univeristary Hospitals in Bucharest, SUUMC and SUUB, cases of patients with adenocarcinomas suggestive for this syndrome, strictly following the HP criteria and age at diagnosis.

**Results:** The literature shows that in the US Lynch syndrome has a frequency of 1: 273, compared to the already famous BRCA1 and BRCA2 mutations whose frequency is estimated at 1: 400 people.

Currently in Romania there is no evidence of these patients or a rigorous screening program. In reality, the Romanian patient with Lynch syndrome does not have a center to address, which makes his life expectancy poorer than in the countries that already have a great experience in LS.

**Conclusion:** It is necessary to popularize this syndrome both among clinicians and laboratory doctors (pathologists, geneticists), as the prophylaxis measures applied to carriers through early screening are a life-savior in terms of quantity and quality for primary and secondary prophylaxis.

## ID340 Structural Analysis of a 20S Proteasome

Anamaria-Teodora Ciobotea<sup>1</sup>, Leona Chitoiu<sup>2</sup>, Cristina Scurtu<sup>3</sup>, Olivia Dobrica<sup>3</sup>, Ana-Maria Pantazica<sup>3</sup>, Norica Nichita<sup>3</sup>, Mihaela Gherghiceanu<sup>1,2</sup>, Tudor Emanuel Fertig<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Victor Babes” National Institute of Pathology, Bucharest, Romania

<sup>3</sup>Department of Viral Glycoproteins, Institute of Biochemistry, Bucharest, Romania

Proteasomes perform protein degradation in cells, making them attractive targets for molecular therapies in cancer and neurodegenerative disease. The cylindrical 20S proteasome or the core particle (CP) is the enzymatic center of the proteasome complex. It is composed of 4 rings with 7 subunits each and has a central proteolytic cavity, where cellular ubiquitinated proteins are degraded after proteasomal activators (PAs) activate the opening of the CP's gates. Here we determine a 3D structure of the 20S proteasome, using negative stain electron microscopy and single-particle analysis (SPA) workflows.

A Talos F200C 200keV transmission electron microscope was used to acquire 39 micrographs, each containing approximately 350 negatively stained CPs, in different orientations. RELION software was then used for automated particle picking, generation of two-dimensional classes and 3D model processing.

We obtained a final 3D model, at a resolution of 18.6 Å. Despite the relatively low resolution, analysis of the model revealed that CPs are in the closed-gate state and no PAs appear to be associated with the particles.

Although cryo-electron microscopy has now become standard for structural studies, single particle negative stain electron microscopy can still offer insights into protein structure and function, complementing other microscopy techniques and biochemical assays.

### ID356 Evaluation of rCIM, CarbaNP and Its Derivates for the Detection of Slow-Hydrolyzing Carbapenemases

Bogdan Florin Ciomaga<sup>1</sup>, Edgar-Costin Chelaru<sup>1</sup>, Stefan-Decebal Guta<sup>1</sup>, Costin-Stefan Caracoti<sup>1</sup>, Ioana Nicolae<sup>1</sup>, Claudia-Elena Zaharescu<sup>1</sup>, Madalina-Maria Muntean<sup>1</sup>, Adela Vekony<sup>1</sup>, Andrei-Alexandru Muntean<sup>1</sup>, Mircea Ioan Popa<sup>1</sup>, Gabriela Loredana Popa<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Recently, the ECDC has reported the silent spread of the slow-hydrolyzing carbapenemase (SHC) OXA-244 across Europe. This, along with other SHCs, may be missed by conventional laboratory evaluation due to only a slight reduction in Carbapenem diameter. Herein we evaluate the classical rCIM protocol versus CarbaNP and a modified version of CarbaNP (using Triton X 0,1%) to detect these slow hydrolyzing variants.

**Methods:** The rapid Carbapenem Inactivation Method (rCIM) consists of evaluating the growth of the ATCC 25922 strain of *E. coli* after challenge with the supernatant obtained after incubation of a putative carbapenemase-producer with disks of carbapenem (Meropenem). In-house CarbaNP, along with a modified version which substitutes the commercial cell lysis buffer BPER-2 with 0,1% Triton X, were tested. 84 SHCs and 12 strains, in which no carbapenemase was detected, were evaluated. This included a variety of OXA-48-like SHC derivatives (25 OXA-181, 8 OXA-204, 7 OXA-23, 11 OXA-232, 13 OXA-244, and one each of OXA-372, OXA-484, OXA-58 and OXA-793).

**Results and discussion:** CarbaNP had a sensitivity of 0.58 (0.47 - 0.69) and a specificity of 1, while the modified CarbaNP using an inoculum of 1μL loop was 0.47 (0.36 - 0.58) and with a specificity of 1. Using a 5 μL loop had a sensitivity of 0.68 (0.56 - 0.77) and a specificity of 0.91 (0.61 - 0.99). The rCIM showed the highest overall sensitivity 0.88 (0.79 - 0.94) and a specificity of 0.91 (0.61 - 0.99). rCIM failed to identify 4 strains of OXA-23 and a number 6 IMI-type carbapenemases (which were correctly identified by CarbaNP).

**Conclusions:** Use of rCIM showed a high sensitivity in identifying even slow-hydrolysing OXA-48-variants, but fails to identify OXA-23 and IMI-variants. CarbaNP and its derivatives show a consistently lower sensitivity and are more difficult to interpret.

### ID363 Is Toilet Mastectomy a Lifesaving Procedure in Advanced Neglected Breast Cancer? A Case Report

Andreea Parosanu<sup>1</sup>, Cristina Orlov<sup>1</sup>, Mihaela Olaru<sup>1</sup>, Ana-Maria Popa<sup>1</sup>, Cristian Iaciu<sup>1</sup>, Cristina Parlog<sup>1</sup>, Cornelia Nitipir<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Introduction:** Advanced stage breast cancer presents with malignant wound causing skin infiltration, pain and bleeding, which affect quality of life. Therefore, palliative or toilet mastectomy aims to ameliorate wound symptoms and to improve oncological therapy.

**Case presentation:** A 58-year-old woman was referred to our clinic in May 2021 with an enlarging, ulcerating right anterior chest wall tumor.

A total body scan revealed a large 30/25 cm lesion in the right breast, bilateral pleural and bone metastases.

Toilet mastectomy with chest wall reconstruction was recommended to remove the large ulcerated tumor with secondary infection.

Surgical resection revealed infiltrating ductal carcinoma of the breast, ER 90%, PGR 95%, HER2-, Ki67 35%, pT4d pN1a.

Patient was started on CD4/6 inhibitor + Aromatase-inhibitor Zoledronic acid and radiation therapy for symptomatic bone lesions.

After 3 months of therapy, in August 2021, the CT scan showed good response on the pleural and bone metastases.

**Discussions:** The delayed presentation to health facilities of patients with breast cancer, is a common problem in developing countries, where almost 4% of cases require toilet mastectomy.

Toilet mastectomy is useful for a proper decrease in the tumor cell load, in controlling a recurrent necrotic tumor and in preventing the complications resulting from the tumor fragmenting. It is also a recommended solution to improve the quality of life. And because sometimes less could actually mean more, toilet mastectomy can prolong survival.

## ID378 Kidney Biopsy Findings in Patients with Recent SARS-CoV-2 Infection

George Terinte-Balcan<sup>1</sup>, Bogdan Marian Sorohan<sup>2,4</sup>, Bogdan Obrisca<sup>2,4</sup>, Gener Ismail<sup>2,4</sup>, Gabriel Stefan<sup>3,4</sup>, Simona Stancu<sup>3,4</sup>, Mihaela Gherghiceanu<sup>1,4</sup>

<sup>1</sup>Ultrastructural Department, „Victor Babes” National Institute of Pathology, Bucharest, Romania

<sup>2</sup>Department of Nephrology, Fundeni Clinical Institute, Bucharest, Romania

<sup>3</sup>Department of Nephrology, „Dr. Carol Davila” University Nephrology Hospital, Bucharest, Romania

<sup>4</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Coronavirus disease 19 (COVID-19) has developed into a worldwide pandemic spreading to more than 100 countries. Although the respiratory system is at the center of this infection, kidney involvement can also occur and usually leads to a worse prognosis.

In this study we aimed to describe the findings observed on native kidney biopsies (KB) in patients that had a recent infection with SARS-CoV-2.

**Materials and methods:** We searched our electronic records in order to find patients that had a recent history of SARS-CoV-2 infection and also were performed a KB. The infection was documented by a positive PCR test or by positive IgG titers for COVID-19 no more than 3 months before the KB. The cases were then assessed for: age, sex, comorbidities, reason for performing the KB, serum creatinine, serum albumin, proteinuria and hematuria. The tissue obtained by the KB was divided for light, immunofluorescence and electron microscopy.

**Results:** We gathered 25 cases. 9 patients were men. The average age of the patients was 50 years old. 13 patients suffered from hypertension, 3 cases had both hypertension and diabetes, 3 patients had a previous diagnosis of lupus nephritis, 1 patient had a concurrent infection with HVC and 1 with HBV. The main reasons for performing the kidney biopsy were nephrotic syndrome and acute renal failure. The main diagnoses established on the KB were lupus nephritis in 3 cases, membranous nephropathy in 3 cases, minimal change disease in 2 cases and acute tubular injury in 2 cases. All biopsies showed various degrees of endothelial injury.

**Conclusion:** There are still many unknowns regarding the pathophysiology of COVID-19. Whether the findings that were observed on the KB are related in any way to the SARS-CoV-2 infection or they are just coincidental remains to be established by further studies.

## ID385 The Assessment of Elastic Fibrillary Component of Aortic Wall with Age

Paula Loredana Chiriac<sup>1</sup>, Elena Adriana Armasoiu<sup>1</sup>, Florin Giuroiu<sup>1</sup>, Ion Daniel Avramescu<sup>1</sup>, Mircea-Sebastian Serbanescu<sup>2</sup>, Mirela Albu<sup>3</sup>, Florentina Gherghiceanu<sup>4</sup>, Iancu Emil Plesea<sup>5</sup>

<sup>1</sup>Department of Pathology, Fundeni Clinical Institute, Bucharest, Romania

<sup>2</sup>Department of Medical Informatics and Biostatistics, University of Medicine and Pharmacy, Craiova, Romania

<sup>3</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>4</sup>Department of Marketing and Medical Technology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>5</sup>Department of Pathology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Aim:** Aorta is the main representative of the group of arteries that transport large volumes of blood from the heart, named elastic arteries. The authors aimed to quantitatively assess the variation with age of one of the main components of the aortic wall, namely elastic fibers (FE) in different topographic regions of the artery.

**Material and methods:** Four aortic tissue fragments obtained from 90 cases of all ages by cross sections (base, cross, thoracic, abdominal regions) during autopsy, were processed using the classical HP technique (formalin fixation and paraffin embedding) cut and stained with orcein. The histological slides were transformed into virtual slides. Quantitative measurements of elastic fibers density were made using custom-made software, developed in Matlab (Mathworks, USA).

**Results:** FE density revealed an obvious decreasing general trend with age, present at all four levels of investigation and decreased also from the aortic base towards abdominal region. FE were denser in men as compared with women, excepting cross region which proved to be richer in FE in women than in men.

**Conclusions:** FE dominated the age-related remodeling process of the aortic wall during ageing, more pronounced in men as compared with women. The remodeling process evolved in the same way and with the same intensity in all regions of the aortic wall.

## ID388 The Assessment of Aortic Wall Tunica Intima Remodeling Depending on Cause of Death

Florin Giuroiu<sup>1</sup>, Ion Daniel Avramescu<sup>1</sup>, Paula Loredana Chiriac<sup>1</sup>, Elena Adriana Armasoiu<sup>1</sup>, Mircea-Sebastian Serbanescu<sup>2</sup>, Doru Adrian Seicaru<sup>3</sup>, Florentina Gherghiceanu<sup>4</sup>, Iancu Emil Plesea<sup>5</sup>

<sup>1</sup>Department of Pathology, Fundeni Clinical Institute, Bucharest, Romania

<sup>2</sup>Department of Medical Informatics and Biostatistics, University of Medicine and Pharmacy, Craiova, Romania

<sup>3</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>4</sup>Department of Marketing and Medical Technology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>5</sup>Department of Pathology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Aim:** The aortic wall is the site of a continuous process of adaptation to different biochemical and biomechanical stimuli. Intima is the innermost layer of the aortic wall. The authors set out to quantitatively evaluate aortic intimal thickness in different topographic regions of the artery depending on the cause that led to the patients' death.

**Material and Methods:** Study group included 28 people died of a cardiovascular (CV) disease and 62 people died of a non-cardiovascular (NCV) disease. Studied material consisted of four aortic cross sections (base, cross, thoracic, and abdominal regions) collected during autopsy from the selected cases. Tissue fragments were processed using the classical HP technique (formalin fixation and paraffin embedding), stained with orcein and the obtained histological slides were transformed into virtual slides. The measurements of intimal thickness were made with a special soft, Aperio ImageScope [v12.3.2.8013].

**Results:** Intimal thickness increased from aortic origin towards abdominal region and was larger in patients deceased by CV diseases in all topographical regions. The ascending trend was observed both in men and women of both groups. IN CV group, intima was thicker in women as compared with men in all aortic regions while, in NCV group, intima was thicker in men as compared to women in all aortic regions. Differences in intimal thickness remodeling between two groups were extremely variable.

**Conclusions:** Intimal thickness is more or less influenced by the pathologic status that caused patient's death, by the patient's sex and by the topographic region where the measurement was made.

## ID391 Behaviour Particularities in the Use of Medical Masks as a Method of Prevention of Airborne Diseases

Antoaneta Dragoescu<sup>1</sup>, Teodora Ganea<sup>2</sup>

<sup>1</sup>Department of Public Health and Management, Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

At present, protective masks have suddenly become an indispensable component of daily life, not only of medical staff, but also of the general population, in the context of the COVID-19 pandemic. Their correct use generated not very positive attitudes.

**Objectives:** The aim of the study is to evaluate the behaviour particularities regarding the use of medical masks among the students of the Bucharest Faculties of Medicine and Architecture. The specific objectives are: a) Assessing students' behaviour regarding the use of medical masks before and during the SARS-CoV-2 pandemic; b) Analysis of students' knowledge about the correct way to use the medical mask; c) Assessing the students' attitude towards wearing a protective mask.

**Methods:** An observational descriptive study, in transversal approach was performed. Target population was represented by a sample of 143 students from the 5th academic year, 77.6% female and 22.4% male ( $p=0.0450$ , *Kruskal-Wallis test*). Data were collected in May 2021 based on a self-administered questionnaire, created in accordance with the proposed objectives. A quantitative and qualitative analysis was performed using IBM - SPSS Statistics 26.

**Results:** The Faculty of Medicine students wore a protective mask before the pandemic with SARS-CoV-2 and, after the onset of the pandemic, the behaviour of students from both faculties was similar and appropriate to the context. The level of knowledge was higher among medical students, 67.7%, compared to Architecture students, 58.4% ( $p=0.0016$ , *Kruskal-Wallis test*). There was also a positive attitude towards the use of protective masks throughout the study group.

**Conclusion:** The Faculty of Medicine students, compared to those of the Faculty of Architecture, have a more appropriate behaviour, have richer knowledge and more positive attitudes regarding the correct use of protective masks as a method of prevention, both in terms of the new SARS-CoV-2 virus, but also other airborne transmission agents.

## ID397 *Campylobacter* Species Involved in Acute Intestinal Infections

Violeta Corina Cristea<sup>1</sup>, Loredana Gabriela Popa<sup>1</sup>, Ionut Pecete<sup>2</sup>, Andreea Alexandru<sup>3</sup>, Mircea Ioan Popa<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Synevo Central Laboratory, Bucharest, Romania

<sup>3</sup>„Regina Maria” Central Laboratory, Bucharest, Romania

**Objectives:** *Campylobacter* species are the most important bacterial foodborne pathogens. The main sources of infection are represented by raw chicken meat, milk and contaminated water. This study aims to highlight the incidence of *Campylobacter* species in gastrointestinal pathology and their sensitivity to antibiotics.

**Methods:** The samples were collected in FecalS-wab (COPAN). The microscopic examination was made on Gram stained smears. Cultures were obtained through incubation under microaerophilic conditions, at 37°C, with reading at 48 and 72 hours. The species identification was performed by MALDI-TOF MS. The antibiotic susceptibility testing was made through the E-test method.

**Results:** A total of 259 *Campylobacter* strains were examined, with the following distribution: 202 *C. jejuni* (77.99%), 56 *C. coli* (21.62%) and a strain of *C. upsaliensis* (0.39%). The distribution of positivity by sex shows a slightly higher number of cases in the male population (56.37%) compared to females (46.63%). Among the positive samples for *C. jejuni*, 96.53% were sensitive to erythromycin, 54% to tetracycline, also 54% to doxycycline and only 25% to ciprofloxacin.

**Conclusions:** *Campylobacter jejuni* is the main pathogen isolated in campylobacteriosis cases. Diagnosing and treating an infection in due time represent the most important steps in the future prevention of immunological complications, such as reactive arthritis and Guillain-Barré syndrome (GBS). Erythromycin remains the antibiotic of choice for treating these infections.



## **ID170 The Role of Sialic Acid in Cutaneous Squamous Cell Carcinoma**

Mircea Tampa<sup>1,2</sup>, Cristina Iulia Mitran<sup>1</sup>,  
Madalina Irina Mitran<sup>1</sup>, Corina Daniela Ene<sup>1,3</sup>,  
Cosmin Ene<sup>1</sup>, Clara Matei<sup>1</sup>, Ilinca Nicolae<sup>2</sup>,  
Simona Roxana Georgescu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>2</sup>„Victor Babes” Clinical Hospital for Infectious  
Diseases, Bucharest, Romania

<sup>3</sup>„Carol Davila” Nephrology Hospital, Bucharest,  
Romania

**Introduction:** Aberrant sialylation is a feature of cancer cells associated with a malignant phenotype characterized by increased metastatic capacity and invasiveness. High levels of sialic acid are linked to cell proliferation, altered cell interactions and resistance to apoptosis. ST6  $\beta$ -galactoside  $\alpha$ -2,6-sialyltransferase 1 (ST6Gal1), a key enzyme in the metabolism of sialic acid, is overexpressed in many types of cancer and is associated with high tumor grade, metastasis and poor outcome. Cutaneous squamous cell carcinoma (cSCC), a common malignant tumor of the skin, displays a high risk of recurrence and metastasis. The aim of our study was to investigate sialylation in cSCC.

**Material and method:** We have determined the serum levels of total sialic acid (TSA), lipid bound sialic acid (LSA) and ST6Gal1 in 40 patients with cSCC and 40 healthy subjects (the control group). The serum levels of TSA were determined using resorcinol-chlorohydric acid and the serum levels of LSA using chloroform: methanol (2:1). The serum levels of ST6Gal1 were assessed by ELISA method.

**Results:** The mean age was  $56.6 \pm 10.8$  years in the cSCC group and  $54.6 \pm 9.3$  years in the control group and the female/male ratio was 1:1.5, respectively 1:1.33. Most of the cSCC patients had a positive history for chronic sun exposure (85%). The levels of TSA, LSA and ST6GAL1 were 42.37%, 48.70% and 54.52% higher in the cSCC group than in the control group ( $p < 0.05$ ).

**Conclusion:** Our results show aberrant sialylation in cSCC. Understanding the pathogenic mechanism of cSCC may represent the theoretical basis for the design of new diagnostic and prognostic tools.

## **ID173 The Trend of the Incidence of Premalignant Cervical Lesions and Strategy Proposal for Improving the Results**

Natalia Turcan<sup>1</sup>, Maria Sajin<sup>2</sup>, Corina Zugravu<sup>3</sup>,  
Violeta Coravu<sup>4</sup>, Mara Mergeanu<sup>2</sup>,  
Gheorghe Turcan<sup>5</sup>, Monica Mihaela Cirstoiu<sup>6</sup>

<sup>1</sup>Department of Obstetrics and Gynaecology,  
Emergency University Hospital, Bucharest, Romania

<sup>2</sup>Department of Anatomopathology, Emergency  
University Hospital, Bucharest, Romania

<sup>3</sup>Department of Food Hygiene and Nutrition, „Carol  
Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>4</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>5</sup>Faculty of Electronics, Telecommunication and  
Technological Information, Technical University,  
Cluj-Napoca, Romania

<sup>6</sup>Department of Obstetrics Gynecology, „Carol Davila”  
University of Medicine and Pharmacy, Emergency  
University Hospital, Bucharest, Romania

**Introduction:** Worldwide, every two minutes signifies the death of a woman due to cervical cancer. Although for this type of cancer there is an effective vaccine and successful examples of screening programs, the burden of cervical cancer in Romania is alarming. Nowadays, according to *World Health Organization*, in our country, 7.5% of all ages female cancers are cervical cancers.

**Aim:** In this context we aimed to analyze statistically the incidence and trend of precancerous cervical lesions comparatively by year for the last five years in the *University Emergency Hospital of Bucharest*. Additionally, we offer a strategy for improving and facilitating the informing of targeted population in order to increase the efficiency of the national screening programs.

**Results:** In the last five years, in our unit, the mean age for cervical premalignant lesion abnormal cytological result was constant between 41 and 44 years. During this period about 15.500 Pap smears were analyzed and more than 10% of them were abnormal. As expected, the abnormal results ASC-H and H-SIL (high-grade squamous intraepithelial lesion) were found in the older age group. Overall, during the studied period (2016-2021) the majority of the abnormal cytology results were ASC-US (72-77%), for L-SIL the variation was significant, having a correspondent percentage of 15% for this year and a minimum of 8% in 2019. For H-SIL the greatest proportion among abnormal Pap smear results was in 2020, respectively, more than 10%. Instead of conclusion, we propose a simple strategy that implies a database notification program which automatically selects the patients age-suitable for HPV vaccine or cytological screening and alerts the physician to contact and inform those patients.

## ID175 Hereditary Thrombophilia Associating Autoimmune Diseases During Pregnancy – Biomarkers and Ultrasound Findings

Florina-Paula Paulet<sup>1</sup>, Alexandru Baros<sup>2,3</sup>, Crenguta Serboiu<sup>3,4</sup>, Monica Mihaela Cirstoiu<sup>2,3</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Obstetrics and Gynaecology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Emergency University Hospital, Bucharest, Romania

<sup>4</sup>Department of Cellular, Molecular Biology and Histology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Background & objectives:** Hereditary thrombophilia has been connected with several systemic autoimmune disorders, namely autoimmune thyroid pathology and antiphospholipid syndrome. In an iodine-replete country, these diseases need to be evaluated simultaneously. This study was conducted to assess the connection between acute and chronic thyroiditis and inherited thrombophilia and their potential implications.

**Methods:** In the analysis of the cases admitted in the Department of Obstetrics and Gynecology of Bucharest Emergency University Hospital for 55 months, we identified pregnancies marked by autoimmune hypothyroidism and hyperthyroidism associated with hereditary thrombophilia, by standard statistical methods.

**Results:** In this report, we determined the prevalence of immunological markers specific for thrombophilia and against thyroid antigens in pregnant women and explore whether they associate with distinct clinical phenotypes and ultrasound characteristics.

**Interpretation & conclusions:** Testing for thyroid antibodies (ATAs) (anti-thyroglobulin (anti-TG) and anti-thyroid peroxidase (anti-TPO)), TSH and freeT3, freeT4 as well as for immunological and genetic markers specific for thrombophilia and antiphospholipid syndrome should be performed in pregnant women that associate family history of AID (autoimmune disease) with living in classic areas of iodine deficiency.

## ID183 Histiocytoid Sweet Syndrome: a Rare Case with an Unusual Presentation

Alexandra Dobre<sup>1</sup>, Camelia Androne<sup>1</sup>, Mihaela Elena Lazarica<sup>1</sup>, Roxana Ioana Nedelcu<sup>1</sup>, Razvan Theodor Andrei<sup>2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Colentina Clinical Hospital, Synevo Medical Laboratory, Bucharest, Romania

**Objectives:** Histiocytoid Sweet syndrome (H-SS) is an uncommon histological variant of Sweet syndrome (SS), which is a reactive disorder characterized by an abrupt onset of cutaneous lesions. It is distinguished by dermal infiltration mainly composed of immature myeloid cells which resemble histiocytes found among the neutrophils. Even though the etiology is unknown, it has been reported in association with several neoplastic and inflammatory diseases. The aims of our study were to highlight an atypical entity of Sweet syndrome exemplifying the main characteristics through a personal case.

**Methods:** We report a rare case of H-SS in a 31-year old male with a job that involves various long-term journeys. We evaluated the clinical and dermoscopic appearance of the lesions. Further, lab tests, microbiologic analysis, conventional histopathologic study as well as immunohistochemical stainings were performed to rule out the certain diagnosis.

**Results:** Our patient presented with a 2-year history of scattered skin lesions characterized by alternating periods of remission and relapse. They were slightly itchy, scaly, bright red skin plaques, papules and blisters and they were mainly on the limbs, abdomen and scalp. Clinical findings were not suggestive, so that there were conducted several more investigations. Lab tests revealed peripheral mild eosinophilia, mycologic and parasitologic exams were negative and histopathological evaluation was highly characteristic of H-SS.

**Conclusions:** Although H-SS lesions usually appear with an acute onset after a flu-like illness or as a sign of an underlying malignancy, our patient had an insidious symptomatology, which was not connected with any other disorder. The importance of an accurate diagnosis is emphasised by the fact that the skin lesions recur unless the underlying cause is found and treated. Following-up on laboratory tests is strongly recommended, because of the high risk of developing neoplasia.

## ID184 Assessing the Risk of Poliovirus Importation into Romania Using a Mathematical Model

Alon Vigdorovits<sup>1</sup>, Maria-Dorina Craciun<sup>1,2</sup>, Bianca-Georgiana Enciu<sup>1,3</sup>, Carmen Daniela Chivu<sup>1</sup>, Daniela Pitigoi<sup>1,4</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Grigore Alexandrescu” Emergency Clinical Hospital for Children, Bucharest, Romania

<sup>3</sup>National Centre for Transmissible Diseases Surveillance and Control (CNSCBT), Bucharest, Romania

<sup>4</sup>„Prof. Dr. Matei Bals” National Institute for Infectious Diseases, Bucharest, Romania

**Objective:** Poliomyelitis is a vaccine-preventable disease that has been eliminated from most parts of the world, including Romania. However, the circulation of wild and vaccine-derived polioviruses in some regions, the anti-vaccination movement and the high mobility of populations increase the risk of poliomyelitis re-emergence in areas declared free of polio.

The aim of this study is to quantitatively assess the risk of importation of poliovirus into Romania.

**Methods:** We used an SIR model implemented in R that takes as inputs the number of susceptible and infected individuals in countries that pose a threat of exporting poliovirus, as well as other epidemiological data such as reported values of vaccination coverage and average life expectancy. The output of the model is the frequency of importation, expressed as 1 case per number of travellers from the respective country. The study period was November 2019–November 2020.

**Results:** The highest risk of importing poliovirus into Romania comes from Guinea, at 1 case per 58000 travellers. The risk of importation from Pakistan and Angola was 1 case per 63000 travellers, while the risk of importation from the Democratic Republic of Congo was 1 case per 106000 travellers.

**Conclusions and discussions:** We managed to quantify Romania's risk of importing poliovirus from countries where virus circulation is still active. Taking into account the sub-optimal vaccination coverage in Romania, we believe acknowledging that a real, measurable risk of poliovirus importation is present will help steer public health efforts in the right direction. Limitations of the model include possible errors in the epidemiological data used, and the model's assumption of a homogenous population.

## ID189 The Possibility of Implementing Tuberculosis Treatment for Outpatients

Ionut Valentin Stanciu<sup>1</sup>, Viorica Zamfir (Pislan)<sup>1</sup>, Denisa-Gabriela Andrei<sup>1</sup>, Ghitulescu Iuliana<sup>1</sup>, Roxana Elena Cirjaliu<sup>1,2</sup>, Iustin-Alexandru Lupu<sup>2</sup>, Elena Dantes<sup>1,2</sup>

<sup>1</sup>Clinical Hospital of Pneumophthisiology, Constanta, Romania

<sup>2</sup>Faculty of Medicine, „Ovidius” University, Constanta, Romania

**Aim:** To explore the possibility of administering anti-TB treatment to outpatients, according to WHO's latest recommendations as well as the medical staff involved and TB infected patients.

**Methods:** A study was conducted with 15 physicians, 25 nurses and 30 TB patients at 1st Department of Pneumology of Pneumophthisiology Hospital of Constanta. The study composed of a survey aimed at highlighting the pros and cons of ambulatory TB treatment. The survey was formulated to gather data on medical services to which TB patients have access, their knowledge about tuberculosis, risks and advantages of ambulatory TB treatment, as well as the significance of patient-physician relationships. We also gathered information such as the patient's life and living conditions, comorbidities and access to medical services from their home.

**Results:** 13 of 15 surveyed physicians agreed that TB treatment should start in the hospital. The physicians also unanimously agreed that positive smear for TB leads to mandatory hospitalisation and only 5 physicians disagreed with the hospitalisation of patients with TB symptoms regardless of bacteriological results. 12 physicians believed that 1 month is an optimal hospitalisation period, the other 3 considered that 2 months are necessary in order to monitor treatment and adverse reactions. 73.3% of physicians believed that territory dispensaries are sufficiently organized and 13 state that ambulatory treatment would reduce costs. 72% of nurses regarded that 2 months are necessary for TB patients, the others stated that one month is sufficient. All nurses agreed that territory dispensaries are unprepared for ambulatory TB treatment. 21 patients stated that they are well-informed of their disease, whereas 9 of them stated the opposite. 88% of patients come from a rural area and 93% believe that hospitalisation is necessary.

**Conclusion:** Despite good communication between the hospital and territory dispensaries, 50% of pneumologists consider that a community approach to TB care isn't currently possible. The patients state that they feel reassured whilst being monitored in the hospital.

## ID190 TBC Recurrence: Risk Factors in a High Endemism Population

Denisa-Gabriela Andrei<sup>1</sup>, Ionut Valentin Stanciu<sup>1</sup>, Viorica Zamfir<sup>1</sup>, Simona Lupsa<sup>1</sup>, Iustin Alexandru Lupu<sup>1</sup>, Elena Dantes<sup>1,2</sup>

<sup>1</sup>Clinical Hospital of Pneumophthysiology, Constanta, Romania

<sup>2</sup>Faculty of Medicine, „Ovidius” University of Constanta, Romania

**Background:** In Romania, pulmonary tuberculosis (TB) is still a public health issue, despite the global TB rate decreasing by 60.2% from 2002 to 2019. In 2020, we witnessed a surprising drop in worldwide TB incidence, from 56.9/1000 people (in 2019) to 35/1000 people (in 2020). This endemic drop is especially due to the number of new cases. The percentage of global TB recurrence remained the same (12/1000).

**Aim:** To identify possible risk factors that cause TB recurrence.

**Methods:** We conducted a retrospective cohort study, investigating the pneumology department's first 100 pulmonary tuberculosis admissions in 2019. We compared the socio-demographic, clinical radiology and bacteriological factors between both new cases (N) and recurrences (R). Recurring cases (or relapses) are defined as cases in which a patient has been diagnosed with a new TB occurrence (having been confirmed either through bacteriological or histopathological tests) after being deemed 'cured' or having completed full medical treatment for a previous TB occurrence.

**Results:** Out of 100 patients, 26 cases were recurrences and 74 were new cases of TB. The men to women ratio was 2.59 for new cases and 1.39 for relapses. The risk of recurrence was not linked to factors such as gender, age and living conditions and the average time between previous TB occurrences and relapses was 131 months. The average decade rose from 41-50 years (new cases) to 51-60 (recurrences). Nutritional values were poorer in the case of recurrences, with patients having an average BMI of  $<20 \text{ Kg/m}^3$ ,  $p < 0.4$ . Of the 26 cases of TB relapse, 7% were charity cases, 78% were unemployed, 54% lived in an urban environment, 77% were smokers and 26% consumed alcohol. Diabetes was the most common comorbidity identified among this group. Also, within the R group we identified an increased rate of HR resistance, higher frequency of pulmonary cavitary lesions, lower rate of recovery and higher death rate.

**Conclusion:** More attention must be applied in the case of patients with TB relapse due to a poorer prognosis.

## ID191 Assessment of Socio-Economic Factors and Lifestyle Among Children and Particularities of Diabetes among Younger Adults in a ROMA Population

Irina Calma<sup>1,2</sup>, Andrada Cosoreanu<sup>1,3</sup>, Emilia Rusu<sup>1,3</sup>, Gabriela Radulian<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Prof.N.C. Paulescu” National Institute of Diabetes, Nutrition and Metabolic Diseases, Bucharest, Romania

<sup>3</sup>„Nicolae Malaxa” Clinical Hospital, Bucharest, Romania

**Objectives:** On the grounds that the interest in the relationship between socio-economic status and dietary patterns has increased lately, the study is intended to assess an epidemiological analysis and to identify different food patterns in ROMA children along with emphasizing significant features of diabetes among ROMA young adults.

**Methods:** The study included 51 children, aged between 1 to 18 years old, most of them being men 56% (n=29) and 68 young adults with diabetes, 18 to 49 years of age, out of which 64.7% (n=44) were also men. In the young adults' group, 16 patients (23.5%) had T1DM, while 52 (76.5%) had T2DM. They were subjected to medical evaluation that comprised personal and family history, dietary pattern, anthropometric measurements and paraclinical investigations. All participants have agreed on signing a written informed consent.

**Results:** In the children's group, we identified that the majority of them had central obesity (70%; n=36) and that their food patterns consisted of high amounts of meat at the expense of fruits and vegetables consumption. The study also revealed a significant deficit in terms of education, most of them attending only primary school (n=48).

Regarding the group of young adults with diabetes, 55.8% (n=38) of them had a family history of diabetes. The study revealed that 42.6% (n=29) did not monitor closely their glucose levels and that 14.7% (n=10) did not have self-management educational skills. However, more than half of the subjects (n=38; 55.9%) do follow a healthy diet, even though more than 70% (n=48) do not exercise regularly. Most patients had obesity (n=38; 55.8%).

**Conclusion:** Lack of education and lifestyle behaviours are strongly connected to metabolic diseases development. Thus, certain educational programs could help the Roma population reduce the incidence of diabetes and other related diseases. In terms of diabetes control, there is enough space for improvement. Self-management skills are the key for a well-controlled long-term diabetes.

## ID194 The First Romanian Patient with Fabry Disease Treated with Oral Chaperone Therapy Migalastat: a Case Report

Lucia Ciobotaru<sup>1</sup>, Gener Ismail<sup>1,2</sup>, Dorina Tacu<sup>3</sup>, Elena Rusu<sup>1,2</sup>

<sup>1</sup>Department of Nephrology, Fundeni Clinical Institute, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Department of Urology, Dialysis and Kidney Transplant, Fundeni Clinical Institute, Bucharest, Romania

Fabry disease (FD) is an X-linked inherited disorder of glycosphingolipid metabolism due to deficient or absent lysosomal alpha-galactosidase ( $\alpha$ -Gal) A, leading to substrate accumulation and multiple organ function impairment. Patients aged  $\geq 16$  with amenable mutations can be treated with migalastat, a recently approved oral pharmacologic chaperone, to increase endogenous  $\alpha$ -Gal A activity.

We present the case of the first Romanian patient with FD treated with migalastat. We assessed safety along with renal, cardiovascular, neurological and patient-reported outcome and disease biomarkers in a 25-year-old man patient after 12 months of migalastat. At 16-year-old, the patient performed nephrological evaluation for increased serum creatinine and the histological result of kidney biopsy, enzymatic and genetic testing confirmed the diagnosis of FD. The complete clinical assessment of target organs revealed FD with nephrological, neurological, dermatological, ophthalmological, hearing and vestibular involvement. Nine months later the patient received enzyme replacement therapy (ERT) with agalsidase beta. Despite the treatment the kidney function decreased rapidly, so that he reached end-stage kidney disease and hemodialysis was initiated. Living-related kidney transplant was performed 1 year later. ERT was maintained for prevention of appearance or progression of extra-renal FD organ impairment. In April 2020 he was switch from agalsidase beta to migalastat. During the migalastat treatment, renal graft function was evaluated by changes in serum creatinine, eGFR and proteinuria. Cardiac changes were evaluated by echocardiographic, electrocardiographic and ECG-holter. Neurologic changes were determined on the basis of clinical examination. The nephrological, cardiological and neurological evaluation after 6 and 12 months of migalastat treatment revealed a stable disease. The FD-specific manifestations and symptoms remained stable and the quality of life improved. The enzyme activity showed an increase at 12 months of migalastat treatment. We conclude that therapy with migalastat was safe, well tolerated and resulted in a stable disease.

## ID 195 Stamina Lessons Applied in the Current Pandemic: Nurse Role in Influenza Prophylaxis

Mihaela Corina Radu<sup>1</sup>, Corneliu Nicolae Zaharia<sup>2</sup>, Alexandrina Nuta<sup>2</sup>, Andrei Neculescu<sup>3</sup>, Adrian Calin Boeru<sup>1</sup>, Melania Elena Pop-Tudose<sup>4</sup>, Bogdan Gabriel Marinca<sup>5</sup>, Madalina Preda<sup>5</sup>, Loredana Sabina Cornelia Manolescu<sup>2,5</sup>

<sup>1</sup>Department of Birth, Hospital of Obstetrics and Gynaecology, Ploiesti, Romania

<sup>2</sup>Department of Virology, „Stefan S. Nicolau” Institute of Virology, Bucharest, Romania

<sup>3</sup>Department of Emergency, „Dr. Carol Davila” Central Military Emergency University Hospital, Bucharest, Romania

<sup>4</sup>Department of Obstetrics and Gynaecology, Faculty of Midwives and Nursing, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>5</sup>Department of Microbiology, Parasitology and Virology, Faculty of Midwives and Nursing, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Introduction:** Influenza is a contagious respiratory disease caused by influenza viruses that can cause mild to severe illness and mainly affects the elderly, young children and people with certain health conditions. Nurses and all healthcare professionals can have a strong influence on patients' decision to get vaccinated. STAMINA project nr. 883441 taught us valuable lessons to support vaccination and combating misinformation. This is a priority for every healthcare professional.

**Purpose:** The aim of this study was to identify the level of knowledge of medical staff on influenza but also their views on vaccination and general prevention of influenza.

**Method:** For this study we applied a questionnaire of 36 questions, on a batch of 60 active medical staff from several hospitals in Bucharest. The first part includes the socio-demographic characteristics of the medical staff such as age, sex, background, the second part assessed the participants' knowledge about influenza viruses, and the third part assessed the participants' knowledge about influenza vaccination.

**Results:** Unanimously, all participants believed that the flu can be prevented. 95% of the participants knew that the flu vaccination is carried out every year. Most patients (76.7%) treated by participants knew of the existence of influenza vaccine but of the total number of patients only 11.7% are vaccinated. 83.3% of participants recommend the administration of influenza vaccine to the entire population. 76.7% of participants do not consider that the measures taken by the authorities are effective in avoiding the flu epidemic.

**Conclusions:** The medical staff participating in the study is well informed about the flu and how to prevent it, as well as the problems associated with vaccination. But, although they offer scientifically valid advice, patients are reluctant and have fears about the benefits of vaccination, and the measures taken by the authorities are insufficient.

This paper has been partially supported by the STAMINA project which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 883441.

## ID 196 The Role of Medical Staff in Promoting COVID-19 Vaccination, Stamina Lessons

Mihaela Corina Radu<sup>1</sup>, Corneliu Nicolae Zaharia<sup>2</sup>, Alexandrina Nuta<sup>2</sup>, Andrei Neculescu<sup>3</sup>, Adrian Calin Boeru<sup>1</sup>, Melania Elena Pop-Tudose<sup>4</sup>, Oana-Cristina Bratu<sup>5</sup>, Loredana Sabina Cornelia Manolescu<sup>2,5</sup>

<sup>1</sup>Department of Birth, Hospital of Obstetrics and Gynaecology, Ploiesti, Romania

<sup>2</sup>Department of Virology, „Stefan S. Nicolau” Institute of Virology, Bucharest, Romania

<sup>3</sup>Department of Emergency, „Dr. Carol Davila” Central Military Emergency University Hospital, Bucharest, Romania

<sup>4</sup>Department of Obstetrics and Gynaecology, Faculty of Midwives and Nursing, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>5</sup>Department of Microbiology, Parasitology and Virology, Faculty of Midwives and Nursing, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Introduction:** Misinformation about vaccination and its impact on immunization programs is a growing concern. Vaccine safety concerns are a determining factor in reluctance for both the public and health professionals. STAMINA project helped us understand all the dangers of these outcomes. Healthcare professionals have a responsibility to combat this misinformation by presenting objective data and studies carried out on the safety and necessity of vaccines. A successful vaccination program requires acceptance, communication, information and good collaboration between national public health authorities, health professionals, parents and patients.

**Objective:** The main objective of this study was to describe the knowledge, attitudes and practices of medical staff regarding COVID-19 vaccination.

**Method:** For this study we applied a questionnaire of 36 questions, a questionnaire that includes 3 sections - the first part covering the socio-demographic characteristics of medical staff such as age, sex, background, the second part assessed participants' knowledge about SARS-CoV-2, and the third part about COVID-19 vaccination.

**Results:** About one-third of the participants became infected with SARS-CoV-2 virus, and 2-thirds of the participants were vaccinated against it. Most participants considered that the best methods to prevent COVID-19 are vaccination and wearing protective equipment. Among the study participants who were not vaccinated, the main reason was that they feared the side effects of the vaccine and did not consider the disease dangerous.

**Conclusions:** In Romania, access to the vaccine is very easy, the main reason for the low percentage of vaccinated people is the anti-vaccine disinformation movement which is a growing problem to combat the current pandemic. Thus, encouraging vaccination and combating misinformation about how vaccines work and their need must be a priority for everyone.

This paper has been partially supported by the STAMINA project which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 883441.

## ID197 Knowledge, Attitudes, Practices of Pregnant Women from Romania Regarding TORCH Infection Testing, Stamina Lessons

Mihaela Corina Radu<sup>1</sup>, Corneliu Nicolae Zaharia<sup>2</sup>, Andrei Neculescu<sup>3</sup>, Adrian Calin Boeru<sup>1</sup>, Melania Elena Pop-Tudose<sup>4</sup>, Ana Mria Radu<sup>5</sup>, Loredana Sabina Cornelia Manolescu<sup>2,5</sup>

<sup>1</sup>Department of Birth, Hospital of Obstetrics and Gynaecology, Ploiesti, Romania

<sup>2</sup>Department of Virology, „Stefan S. Nicolau” Institute of Virology, Bucharest, Romania

<sup>3</sup>Department of Emergency, „Dr. Carol Davila” Central Military Emergency University Hospital, Bucharest, Romania

<sup>4</sup>Department of Obstetrics and Gynaecology, Faculty of Midwives and Nursing, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>5</sup>Department of Microbiology, Parasitology and Virology, Faculty of Midwives and Nursing, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Purpose:** The objective of this research is to describe the level of knowledge about the TORCH panel of women of childbearing age in order to be able to limit the maternal-fetal transmission of these infectious diseases;

**Material:** To carry out this study we applied a questionnaire consisting of a number of 28 questions to a number of 950 pregnant women, over a period of two months. The first part of the questionnaire contains details about the socio-demographic characteristics of women. The second part of the questionnaire focuses on the knowledge of pregnant women about diseases within TORCH.

**Results:** 80.2% of the women who took part in the study heard of the TORCH panel. Out of the total number of 950 respondents, 910 women obtained a pregnancy naturally, 530 women are in their first pregnancy, and the remaining 420 had multiple pregnancies in the past. A relatively high percentage is represented by cesarean section, as a mode of birth, more precisely 55.9%, compared to a spontaneous natural birth, with less than 29.4%. 599 of the total respondents answered that they were tested for Toxoplasmosis, and 210 do not know if they were ever tested. A high percentage (79%) heard about Rubella from spe-

cialized medical staff, and a number of 502 were tested for this type of infection. Unfortunately, a large number of women participating in the questionnaire, namely 478, replied that they had no information about Listeria, and at the opposite pole we had a number of 383 women who said they had heard of this pathology from medical staff.

**Conclusions:** Although early recognition and detection of TORCH infections in both mother and fetus are an important part of prenatal care, there are a large number of pregnant women who are poorly informed about the possibility of transmitting infections to the fetus before, after or even during birth.

This paper has been partially supported by the STAMINA project which has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 883441.

## ID198 Prophylaxis of Diseases of Viral Etiology with Parenteral Transmission

Loredana Sabina Cornelia Manolescu<sup>1</sup>,  
Mihaela Corina Radu<sup>2</sup>, Adrian Calin Boeru<sup>2</sup>,  
Melania Elena Pop-Tudose<sup>3</sup>, Elena Badea<sup>1</sup>,  
Loredana Gabriela Popa<sup>4</sup>, Mircea Popa<sup>5</sup>

<sup>1</sup>Department of Microbiology, Parasitology and Virology, Faculty of Midwives and Nursing, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Birth, Hospital of Obstetrics and Gynaecology, Ploiesti, Romania

<sup>3</sup>Department of Obstetrics and Gynaecology, Faculty of Midwives and Nursing, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>4</sup>Department of Microbiology, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>5</sup>Department of Microbiology, Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy Bucharest, Romania

**Introduction:** Hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV) are the most common viruses that are transmitted parenterally, through blood, through secretions, sexually or vertically. If we discuss only blood transmission, then it can be said that health personnel are exposed to an increased risk due to certain procedures such as: venous puncture, incisions, and sutures.

**Objection:** The aim of this research is to assess the perception of the risk of medical staff to contract B / C and HIV hepatitis viruses at work.

**Method:** As a method of evaluation, a questionnaire with 24 questions was applied to a number of 329 medical staff, with a maximum answer time of 30 minutes. The questionnaire contains both open-ended questions with free answer and closed questions, with pre-formulated answers, with one or more answer options, but also questions with yes / no answer options. The application of this questionnaire was made between October and November 2020, online.

**Result:** 78% of the respondents are average staff, 8% are represented by medical staff with higher education and 14% auxiliary staff. 12% of the medical staff participating in the study do not have enough information on ways to prevent these viruses. Also 17% have insufficient knowledge about the vertical transmission of these viruses. More than 40% of respondents have not heard of the “Practical Guide to Managing Exposure to Organic Products”

**Conclusions:** Prevention and control of infections are impossible if the medical staff has no idea or does not understand how these infections spread. Continuing education in the form of courses is essential for understanding the importance and methods of infection prevention and control.

## ID228 Risk Factors Associated with a Hemorrhagic Event in Orally Anticoagulated Patients: Do We Look at the Whole Picture?

Nikolaos Kontomitros<sup>1</sup>, Emma Weiss<sup>1,2</sup>,  
Ana Maria Balahura<sup>1,2</sup>, Daniela Bartos<sup>1,2</sup>,  
Elisabeta Badila<sup>1,2</sup>

<sup>1</sup>Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy Bucharest, Bucharest, Romania

<sup>2</sup>Department of Internal Medicine, Clinical Emergency Hospital of Bucharest, Bucharest, Romania

**Objectives:** The objective of this study is to evaluate patients diagnosed with a hemorrhagic complication attributed to oral anticoagulants (OAC), either a vitamin K antagonist (VKA) or a non-vitamin K oral anticoagulant (NOAC), and to identify risk factors for in-hospital and long-term mortality, patient profile associated with severe bleeding, and risk factors for OAC associated bleeding.

**Materials and methods:** In this retrospective, descriptive study, we included patients admitted to an emergency hospital due to a hemorrhagic complication, at any site, attributed to OAC therapy. Data were collected using the electronic database of the hospital between the years 2018 and 2021.

**Results:** A total of 164 patients were included in this study, out of which 52.7% were females. The bleeding complication was fatal in 23.8% of the patients, while 54.9% had a major bleeding event. Most of the patients were treated with VKA (77.4%) due to AF (66.5%). 59% of the patients with HF did not survive ( $p=0.05$ ). Hypertension increased by 5% the risk of a major bleeding event, with most patients having at least 4 cardiovascular risk factors ( $p=0.029$ ). Moreover, any type of kidney dysfunction increased the risk of death by 6% ( $p<0.001$ ). 73.1% of dementia patients had a major bleeding event ( $p=0.046$ ). None of those with type 1 DM, half of the patients with a type 2 DM under oral treatment and 7 out of 8 with insulin treatment survived ( $p=0.03$ ). When correlating HAS-BLED with in-hospital mortality most of the patients that did not survive had a mean score of 3 ( $p=0.02$ ).

**Conclusions:** There are multiple factors that increase the risk of a hemorrhagic event in anticoagulated patients. The future of this field remains safer OACs, a better risk stratification and improved patient-doctor communication.

## ID235 Association of Negative-Pressure Wound Therapy and Split-Thickness Skin Grafting in Hard-To-Heal Chronic Wounds

Stefania-Mihaela Riza<sup>1,2</sup>, Vlad Petre Atanasescu<sup>1,2</sup>, Ioana Ghiurco<sup>1,2</sup>, Andrei Ludovic Porosnicu<sup>1,2</sup>, Ioana Dumitrescu<sup>1</sup>, Ruxandra Diana Sinescu<sup>1,2</sup>

<sup>1</sup>Department of Plastic and Reconstructive Surgery, Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Plastic and Reconstructive Surgery, Elias Emergency University Hospital, Bucharest, Romania

**Objective:** We aimed to document an easy therapeutic strategy to achieve quicker wound closure in patients with chronic wounds.

**Material and methods:** The study included patients with venous leg ulcers, diabetic leg ulcers, and posttraumatic chronic wounds with long-term evolution (at least 6-8 weeks), treated using split-thickness skin grafting and negative-pressure wound therapy (NPWT). After debridement, the skin graft was sutured and fixed using negative pressures ranging from (-)100mmHg to (-)150mmHg. The dressing was then changed on the 3th to 5th day after surgery. The subsequent dressings consisted of tulle-gras as the first layer, topped with dry gauze and conventional pressure bandaging. We noted the skin graft viability and the occurrence of local complications. Data regarding demographic and biological status, bacterial wound contamination agent, type and duration of antibiotic therapy, hospitalization length, and the frequency of postoperative dressings were also collected.

**Results:** We included 17 patients with chronic wounds in 36 months (May 2018-May 2021); 47.1% of them were male; the mean age was 66.29 years; the most common comorbidities were diabetes mellitus, high blood pressure, arterial or venous insufficiency. Bacterial colonization with MRSA, *Pseudomonas Aeruginosa*, *Proteus mirabilis* was common. About 53% of patients received 7 days of parenteral prophylactic Cefuroxime. The proportion of skin graft survival ranged between 90-100%. Cellulitis occurred in only 3 patients and was treated conservatively. The mean hospitalization time was 11.76 days. The frequency of postoperative dressing change was every 3 to 4 days until resolution. We obtained complete healing at 4-6 weeks postoperatively.

**Conclusions:** Based on our experience, split-thickness skin grafting followed by NPWT in the management of hard-to-heal chronic wounds in elderly patients with multiple comorbidities may be considered a more straightforward, quicker, and successful approach.

## ID237 Updates in Antimicrobial Resistance in Urinary Tract Infection - One Centre Experience

Ileana Adela Vacaroiu<sup>1,2</sup>, Elena Cuiban<sup>2</sup>, Andrei Angelescu<sup>2</sup>, Cristiana David<sup>1,2</sup>, Daniela Radulescu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Clinic of Nephrology and Dialysis, „Sf. Ioan” Emergency Clinical Hospital, Bucharest, Romania

**Objectives:** In light of recently updated international guidelines and the shift in recommendations for urinary tract infections (UTI) antimicrobial therapy approach caused by the increasing antibiotic resistance, we found it imperative to analyse the local antimicrobial resistance, in order to update the current approach to UTI treatment.

**Methods:** We conducted an observational retrospective study and analysed 1791 consecutive patients hospitalized in our Nephrology Unit from 01 January 2020 until 31 December 2020. The inclusion criteria were diagnosis of UTI at time of admission, including complicated and uncomplicated UTI, mandatory confirmed by microbiological criteria. We analysed the spectrum of causal agents, with focus on antibacterial resistance and antimicrobial therapy adequacy.

**Results:** Among 115 patients who met inclusion criteria, the prevalence of *Escherichia coli* as causal agent was 61.7% (71 patients), *Klebsiella species* 12.1% (14 patients), *Pseudomonas aeruginosa* 9.5% (11 patients), *Enterococcus species* 6.0% (7 patients), *Staphylococcus species* 3.4% (4 patients), *Proteus species* 3.4% (4 patients), *Candida* 2.6% (3 patients), group B *Streptococcus* 1.3% (1 patient).

Specifically for the isolated *Escherichia coli* strains, 53.52% (n=38) have shown resistance for at least one class of antibiotics, as follows: 4.2% (n=3) were resistant to 3<sup>rd</sup> generation cephalosporins, 5.6% (n=4) were resistant to fluoroquinolones, 2.8% (n=2) were resistant to aminoglycosides, 5.6% (n=4) were resistant to trimethoprim+sulfamethoxazol, 12.7% (n=9) shown resistance for two classes of antibiotics and 21.12% (n=15) shown combined resistance (CR), defined as resistance to 3<sup>rd</sup> generation cephalosporins, fluoroquinolones, and aminoglycosides. In patients with *Escherichia coli* UTI, the initial empirical antibiotic treatment was in target in 49 patients (69%).

**Conclusions:** We found an increased prevalence of UTI caused by antibiotic resistant germs, predominantly by *Escherichia coli* strains. Subsequently, more research is needed in order to optimize antibiotic prescribing practices by establishing a regional mapping of antimicrobial resistance in UTI in parallel with latest guidelines recommendations.

## ID240 A Case Report of Cutaneous Squamous Cell Carcinoma with Local Skin Metastasis

Ioana-Simona Dinu<sup>1</sup>, Iulia-Elena Negulet<sup>1</sup>, Emanuela-Domnica Boieriu<sup>1</sup>, Alexandra-Irina Butacu<sup>1</sup>, George-Sorin Tiplica<sup>1</sup>

<sup>1</sup>2<sup>nd</sup> Department of Dermatology, Colentina Clinical Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Cutaneous squamous cell carcinoma (CSCC) represents a nonmelanocytic skin cancer and is the second most common malignancy in the general population. The tumor has its origins in the epidermal keratinocytes and the carcinogenesis process includes neoplastic transformation and proliferation of the keratinocytes. The most important risk factor is chronic sun exposure, especially in fair-skinned patients.

Herein, we report a case of CSCC with local skin metastasis.

**Methods:** A 84-year-old male patient presented to the Dermatology Department for an ulcerated plaque located on the right foot. The lesions appeared 20 days ago as erythematous papules which gradually increased in size and became one large, ulcerated plaque.

The personal medical history revealed gangrene of the fourth right toe followed by surgical amputation, five months prior.

The physical examination showed an ulcerated, imprecisely demarcated plaque, with purulent and fibrin deposits on the surface on the dorsal and plantar face of the right foot. Furthermore, clinical examination revealed a disseminated eruption consisting of erythematous, well-demarcated, indurated nodules and plaques on the right thigh, calf and foot.

**Results:** Two punch-biopsies were performed. The first punch-biopsy from the ulcerated plaque showed histopathological changes compatible with the diagnosis of infiltrative squamous cell carcinoma. The second punch-biopsy from an erythematous nodule situated on the right calf revealed a malignant tumoral proliferation consisting of large, polygonal cells with hypertrophic nuclei and frequent typical and atypical mitosis and established the diagnosis of cutaneous metastasis.

**Conclusions:** CSCC represents a frequent though preventable skin tumor. Periodical dermatological check-ups are required in order to establish a rapid diagnosis in high-risk population. CSCC with local cutaneous metastasis associates a poor prognosis and the collaboration with Oncology Departments is important in managing these patients.

## ID241 A Case Report of Purpura Fulminans Following the Oral Intake of Acetaminophen

Iulia-Elena Negulet<sup>1</sup>, Emanuela-Domnica Boieriu<sup>1</sup>, Ioana-Simona Dinu<sup>1</sup>, Alexandra-Irina Butacu<sup>1</sup>, George-Sorin Tiplica<sup>1</sup>

<sup>1</sup>2<sup>nd</sup> Department of Dermatology, Colentina Clinical Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Purpura fulminans represents a dermatological emergency consisting of disseminated intravascular coagulation (DIC), circulatory collapse, and hemorrhagic cutaneous purpura. There are three main etiologies described: neonatal, acute infectious, and idiopathic. Cases of purpura fulminans following the intake of drugs such as NSAIDs or acetaminophen have been described in the literature.

Herein, we report a case of purpura fulminans following the oral intake of acetaminophen.

**Methods:** A 78-year-old male without medical history was transferred to the Dermatology Department from an Internal Medicine Department with an eruption consisting of brown-violaceous macules, situated on both legs. The cutaneous manifestations appeared one month prior following the oral intake of acetaminophen for three consecutive days. The physical examination revealed a brown-violaceous eruption consisting of imprecisely delimited macules hemorrhagic bullae and erosions on the surface. No mucosal lesions were identified.

**Results:** A complete blood count was conducted and showed moderate leucocytosis with mild neutrophilia, with the remission of thrombocytopenia. A diagnosis of purpura fulminans was established and the treatment included systemic steroids, systemic antibiotics, platelet transfusion and fresh frozen plasma and topical applications of antiseptics and silver nitrate creams with favourable evolution. Follow-up at 1 month showed favourable evolution with complete remission of the lesions and post-inflammatory hyperpigmentations.

**Conclusions:** Considering the evolution of the patient, involving cutaneous lesions with fulminant development, but also the relatively fast remission, as well as the result of the laboratory investigations, we considered as a plausible hypothesis the existence of a severe post-drug reaction.

Through this case presentation we want to draw attention to the possibility of a severe side effect of a common drug used in elderly patients without a medical history and also to the importance of rapid recognition and immediate administration of effective treatment.

## ID242 Wearable Devices to Monitor the Athlete's Health

Sabina Bosoc<sup>1</sup>, Oana Orza<sup>1</sup>, Cristina Balaceanu<sup>1</sup>, George Suciu<sup>1</sup>

<sup>1</sup>R&D Department, Beia Consult International, Bucharest, Romania

**Introduction:** In our aging population, the number of surgeries performed is increasing rapidly as does the risk of complications. In sports, tracking the condition of athletes is essential to guide physical preparation to avoid the risk of injuries or adverse health events. The article is based on the INNO4HEALTH project, which aims to stimulate innovation in health and fitness monitoring by making use of wearable sensors and IoT devices in order to facilitate recovery for patients and bring training sessions closer to the athlete's actual needs.

**Materials and methods:** For many scientific papers and studies, it has remained important to develop projects in the field of patient and athlete health. This project provides an innovative wearable sensor system (in the sole, t-shirts, patches) that meets the needs of both patients and athletes.

The architecture can be divided into sensors and wearables, data aggregation and storage infrastructure, artificial intelligence (AI) and end-user applications. INNO4HEALTH project aims to create innovative body temperature, inertial and local position tracking sensors. Wearable prototypes are used for data collection, such as FitBit Health Bands or Garmin watches, to track the athlete's health. The objective is set to analyze various wearable devices, focusing on the technical means to collect the data. For wearable data collection, will pursue cloud platform APIs (from wearable vendors such as Garmin, Fitbit, etc.) and other applications which allow data collection (Google Fit, Samsung Health, etc.).

**Results:** The project provides solutions for technical challenges in the following areas:

1. continuous monitoring of patients and athletes
2. central data gathering of the monitoring parameters
3. secure access and management of data by means of biometric authentication
4. automatic interpretation of data to derive relevant information for health and sports coaches
5. dashboards for management of physical and mental state of patients and athletes.

The project aims at developing a technology platform for data collection, management and interpretation, which will enable use cases in the healthcare and sports domains. On the market, there is currently no solution for monitoring both patients and athletes with a unified ecosystem of devices and interpretation algorithms. An ecosystem of wearable devices carrying both innovative as well as existing sensors of physiological parameters is introduced for data collection and extraction of fitness, movement, activity, sleep, stress, psychology and health metrics. Ultimately, the processed metrics is the input to domain-dependent professional dashboards and user Apps to enable use cases in healthcare and sports.

**Conclusions:** The final goal of this project is to enable faster post-surgical recovery and to facilitate monitoring athletes' health and performance through the

use of wearable IoT devices. The wearables are embedded in an ecosystem of devices to enable data collection and AI is used to develop the algorithms and assess performance, fitness and health. AI-centric dashboards and apps are created for health and fitness improvement programmes.

## ID246 Air Monitoring System Inside Smart Toilet

Oana Orza<sup>1</sup>, Filip Osiac<sup>1</sup>, Robert Streche<sup>1</sup>, Roxana Roscaneanu<sup>1</sup>, George Suciu<sup>1</sup>

<sup>1</sup>R&D Department, BEIA Consult International, Bucharest, Romania

**Introduction:** Significant technological developments and improvements have emerged during the last decade, and even for the population's most vulnerable groups. Standard toilets in developed countries do not always suit the needs of disabled and older people. Thus, the Toilet4Me2 project proposes an intelligent toilet system capable of collecting real-time data from sensors located in toilets to improve toilet cleaning resources. IoT has applications in many different areas, for example, in healthcare, allowing people with disabilities to become more independent and making their daily routine easier.

**Materials and methods:** For many scientific works and studies, it has remained important to develop projects to improve the lives of vulnerable people in society. This project seeks to combine data from smart sensor communication with a microcontroller (Raspberry Pi 3). These data reaches the toilet user using a mobile application.

The main functions of this toilet are due to the devices with which it is equipped. For example, two bars were mounted on either side of the toilet in order to assist the elderly in sitting down and rising up from the toilet bowl, as well as a washing function, a hot fan, a heated lid and an UV lamp used for movement detection. All these functions can be set using the remote control to communicate or by pressing the buttons on the lateral cover side.

**Results:** In order to help the elderly and the disabled people, the aim is to increase the efficiency in all aspects of the Toilet4Me2 project, including the air quality in the toilet room. The air quality is monitored with different sensors (for CO<sub>2</sub>, Humidity, Pressure and Temperature) placed in the toilet room, the data is sent in real-time and visualised through Grafana. When values for the measured parameters go above the proposed limit, an alert is sent, and the people in charge of maintenance are notified.

**Conclusions:** The widespread use of smart toilets in day-to-day life represents the first step in tackling the issues this group of people have to face. By using innovative IoT technology such as sensors to monitor the air quality correlated with algorithms for control of the different technical parts, we strive to achieve our goal of doing what little we can in order to improve the quality of life for this small percentage of people deprived of help.

## ID247 Who Is Doing What in a Trial for a Pandemic Crisis

Alexandrina Nuta<sup>1</sup>, S.R. Berca<sup>2</sup>, C.N. Zaharia<sup>1</sup>

<sup>1</sup>„Stefan S. Nicolau” Institute of Virology, Bucharest, Romania

<sup>2</sup>Urban Search and Rescue Service Romania (USARS Romania)

**Objective:** A trial has a well-defined objective and needs to be structured. Trials are evolving processes, they grow “in the making”, like a handcrafted artefact. To perform a trial in a clear, structured and co-creative approach is needed to establish a list of roles and responsibilities and to use adequate tools and methods. The proposed paper presents the roles, functions and responsibilities identified in a trial developed for a pandemic crisis.

**Methods:** The assessment of the local authorities’ effective capacity to ensure a prompt and efficient response in the event of several dangerous (emergency) situations occurring simultaneously was made in the context of a trial scenario developed for an infection with a virus, with high infectiousness, doubled by an earthquake that takes place few days away from the outbreak. Workshop, focus group, interview, brainstorming and discussion were the methods used in identifying the responsibilities for planning, executing and evaluating the activities.

**Results:** Were identified roles, key functions and responsibilities in a trial executed in field or as a table-top exercise. These are trial owner, event coordinator, logistic coordinator, main organizer, trial supervisor, technical coordinator, solution integration coordinator, scenario coordinator, methodology validation conductor, evaluation coordinator, solution assessment conductor, review leader, practitioner coordinator, end user coordinator, user coordinator, safety officer, methodology coordinator, training coordinator, media officer, external cooperation manager and trial support teams (security, medical, etc.).

### Conclusions

- For a table-top exercise the useful roles are trial owner, technical coordinator, evaluation coordinator, practitioner coordinator, safety officer and others (media officer, external cooperation manager, trial support teams).
- Some roles/functions/responsibilities may be merged or combined in cases: event coordinator-logistic coordinator, trial supervisor-scenario coordinator.

**Acknowledgement:** This paper has been supported by the STAMINA project which has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 883441.

## ID249 Contributions to the STAMINA Project - Demonstration of an Intelligent Decision Support for The Prediction and Management of Pandemic Crises In Europe

C.N. Zaharia<sup>1</sup>, T.V. Patancius<sup>1</sup>, Andrei Neculescu<sup>1</sup>, Nicolae Steiner<sup>1</sup>, Alexandrina Nuta<sup>1</sup>, Loredana Cornelia Sabina Manolescu<sup>1</sup>, Daniel Ciurea<sup>1</sup>, Camelia Truica<sup>1</sup>

<sup>1</sup>„Stefan S. Nicolau” Institute of Virology, Bucharest, Romania

**Objectives:** “Stefan S. Nicolau” Institute of Virology (IVN) is a partner in the STAMINA project, having the quality of national planner. The project aims to develop an integrated platform that includes a set of tools which allow to make the most appropriate decisions in an established crisis context.

### Methods:

- Analysis of legislation in force that regulates the management of a pandemic.
- Questionnaires and workshops with stakeholders in pandemic management.
- Searching for public data sources and those with restricted access.
- Evaluation of available tools in STAMINA technology from the possibility of using and the impact point of views.
- Development of exercises (trials) achievable in the field or in the hall (table-top).
- Web pages (virology.ro), leaflets, questionnaires, messages on social networks (LinkedIn, Twitter), scientific articles, radio interview, contacts with the authorities in charge to disseminate the results.

### Results:

- Development of an exhaustive scheme with factors involved in management of a pandemic in Romania.
- Identification of specific database sources for the diseases established in the project.
- Elaboration of several versions for trial including main activities, responsibilities, legislation governing the activity, specific roles and key performance indicators for trial evaluation.
- Development of an use case.
- Contribution to STAMINA specific terminology.

**Conclusions:** IVN’s contribution to the STAMINA Project materialized in the analysis and identification of gaps in national legislation, preparation for providing data sets useful for pandemic evolution prediction models, creation of scenarios and their context, dissemination by different methods, publishing of 6 scientific papers.

**Acknowledgement:** This paper has been supported by the STAMINA project which has received funding from the European Union’s Horizon 2020 research and innovation program under grant agreement No 883441.

## ID250 “ArtIPred”- A Smart Health System Based on Artificial Intelligence as a Predictor for Chronic Kidney Disease Development

Iulia Cristina Pop<sup>1</sup>, Ciprian Rezus<sup>2</sup>, George Suciu<sup>3</sup>, Gianina Dodi<sup>4</sup>, Adrian Sandu Pasat<sup>5</sup>

<sup>1</sup>Beia Consult International, Bucharest, Romania

<sup>2</sup>Medical Clinic, „Sf. Spiridon” Hospital, Iasi, Romania

<sup>3</sup>Faculty of Electronics, Telecommunications and Information Technology, POLITEHNICA University, Bucharest, Romania

<sup>4</sup>CEMEXUMF, Iasi, Romania

<sup>5</sup>eHealth Research Projects

**Objectives:** The scope of the ArtIPred project is to design and validate a smart health system based on AI as a predictor for chronic kidney disease development using ECG signals from animal models. Thus, the project's main objectives are:

- 1) to translate basic to clinical research outputs by developing preclinical biomimetic models;
- 2) to develop and optimize the AI solutions for the prediction of CKD;
- 3) to establish a guideline based on the medical observations, data acquired from the ECG sensors, and results of prediction algorithms.

**Method:** The first stage aim is the Design of conceptual models for CKD assessment and ECG signal processing analysis.

The second phase regards the In vivo evaluation of CKD models and ECG signal processing analysis. We will analyze the Mechanisms of disease generation and progression through biochemical and imaging motorization.

The third phase relates to data acquisition, in continuation to the mechanism of disease generation.

During the last phase, we achieve the Risk algorithm implementation and validation plan for clinical translation.

**Results:** The diagram presented below delineates the proposed architecture for implementing the ArtIPred system. The goal is to establish a clinical framework that will be the basis of the CKD models development. To capture the clinical data, we will deploy a web interface that will allow registration and store the clinical observation of medical personnel based on imaging and biochemistry trials. After, we will study and experiment with specific AI solutions. The main goal is to develop and validate an artificial intelligence tool at the laboratory level that will allow the early diagnosis of CKD.

**Conclusions:** Therefore, the scientific problem is resumed on designing a health system based on artificial intelligence models for patients to detect their kidney disease through a simple, non-invasive way employing their available ECG signal.

## ID251 Key Performance Indicators for Evaluation of a Medical Crisis Trial

Andrei Neculescu<sup>1</sup>, Corneliu Nicolae Zaharia<sup>1</sup>, T.V. Patancius<sup>1</sup>, Alexandrina Nuta<sup>1</sup>, Loredana Cornelia Sabina Manolescu<sup>1</sup>

<sup>1</sup>„Stefan S. Nicolau” Institute of Virology, Bucharest, Romania

**Objective:** The identification of key performance indicators (KPIs) is crucial as it provides a way to quantify the outcomes of a Trial and assess the performance of the trialed solutions. The objective of the paper was to identify the generic KPIs specific for management of a medical crisis (e.g.: SARS-CoV-2 pandemic).

**Method:** Different KPIs were identified in the specific three performance measurement dimensions: crisis management, trial and solution. The methods used included brainstorming, data aggregation, visualisation, comparative analysis, societal impact assessment, research ethics.

**Results:** KPIs for crisis management dimension: number of assisted and better diagnosed patients; reaction times for the capacity to mobilize staff and to prepare materials and means of intervention in case of alerting the various institutions; occupancy rate of hospitals; number of cured patients; number of deaths. KPIs for trial dimension: number of trialed solutions, number of participants (with background in crisis management, technology, rescue service); level of participants involvement; clarity of trial scenario; time need for training on the solution. KPIs for solution dimension: degree of ease of the management activity by using the provided solution; degree of complexity and integration of the provided solution; degree of easy-to-use of the platform, time to create a situation report; time to establish a connection between acting partners, time to transmit messages.

**Conclusions:** For efficiency of the health system there are necessary better distribution of resources and real-time knowledge of the situation in each hospital, more efficient management of the human resource in the hospital because, apparently, the capacity of the hospital increases due to the more efficient management

**Acknowledgement:** This paper has been supported by the STAMINA project which has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 883441.

## ID253 Electrochemotherapy of Soft Tissue Secondary Tumors – a Romanian Experience

Valentin Popescu<sup>1</sup>, Dan Andras<sup>1</sup>,  
Bogdan M. Matei<sup>2,3</sup>, Mihaela G. Moisescu<sup>2,3</sup>,  
Bogdan Mastalier<sup>1</sup>

<sup>1</sup>Clinic of General Surgery, Colentina Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Biophysics and Cellular Biotechnology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Excellence Centre for Research in Biophysics and Cellular Biotechnology, Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** Electrochemotherapy (ECT), a toxicity-enhancement of specific chemotherapy by local-applied electroporation procedure, is a treatment alternative for skin tumour recurrences, whose effectiveness has been demonstrated in the last 30 years. In Romania, this therapy is recently introduced. Amongst the tumor pathologies proposed for palliative/curative ECT, malignant melanoma is the most frequently addressed.

**Method:** We present the case of a 40-year-old Caucasian male patient with metastases on the right antero-lateral thoracic wall that underwent a surgical resection for a right thoracic skin ulcerated tumor, subsequently diagnosed as malignant melanoma (pT-4bM0). The patient refused chemotherapy and immunotherapy with Opdivo. During the period 2017-2018 consecutive CT scans showed two lung tumours, then a right axillary adenopathy and a thoracic skin recurrence. The last two were then surgically removed. In October 2018 the patient consented for ECT when 4 new thoracic metastases were present, one of them being a giant ulcerative tumor, too big for ECT, that has been partially removed by surgery. During the following 10 months two more ECT sessions were performed when new metastases appeared.

ECT was performed as palliative treatment based on Updated European Standard Operating Procedure for Electrochemotherapy using Bleomycin 20000UI (i.v.) and hexagonal needles electrodes for electric pulses application.

**Results:** Patient reported good Quality of Life parameters through all treatment period, being able to sustain family and professional life. A total of 15 out of 16 metastases were treated by ECT. Tumor response was: 53% complete response, 13.3% partial response with re-growth, 13.3% partial response with decrease in size (insufficient data), 13.3% no response, similar to those reported in the ECT literature.

**Conclusion:** The evolution of tumors and patient general status exceeded the general expectations for melanoma with usual therapy. Romanian clinicians' experience of performing for the first time an ECT procedure is presented.

## ID255 Syndromic Testing for Acute Respiratory Tract Infections in Children

Victor Daniel Miron<sup>1,2</sup>, Anca Streinu-Cercel<sup>1,3</sup>,  
Gabriela Bar<sup>2</sup>, Mihai Craiu<sup>1,2</sup>, Carmela Stanescu<sup>3</sup>,  
Gabriela Mircea<sup>3</sup>, Oana Sandulescu<sup>1,3</sup>,  
Adrian Streinu-Cercel<sup>1,3</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Alessandrescu-Rusescu” National Institute for Mother and Child Health, Bucharest, Romania

<sup>3</sup>„Prof. Dr. Matei Bals” National Institute for Infectious Diseases, Bucharest, Romania

**Background:** Every year in the cold season there is an increased co-circulation of several viruses with respiratory tropism. The COVID-19 pandemic and the epidemiological measures taken appear to have influenced the spectrum of acute paediatric diseases. We aimed to analyse the circulation of respiratory viruses among the SARS-CoV-2 negative paediatric population with acute respiratory tract infections (ARTI).

**Methods:** A total of 45 children diagnosed with ARTI in the Emergency Department were tested for the presence of respiratory viruses by performing a rapid respiratory PCR test (Respiratory Panel 2 plus, BioFire, USA) on a nasopharyngeal swab. Clinical and epidemiological data were obtained by applying a standardized questionnaire.

**Results:** The positivity rate was 68.9% (n=31) and was associated with a significantly lower age compared to negative cases [ $2.9 \pm 0.4$  years vs.  $6.3 \pm 1.7$  years,  $p=0.009$ ]. The presence of coryza or rhinorrhoea increased the positivity rate 4.2-fold [ $p=0.036$ ,  $\chi^2=4.4$ , 95%CI:1.1-16.5]. Rhinovirus was the most identified (74.2%, n=23). No cases of influenza were identified. There were 5 cases of co-infection: 3 cases of rhinovirus + adenovirus, and one case each of rhinovirus + metapneumovirus, rhinovirus + coronavirus NL63. In the cases displaying coinfection, the temperature value was significantly higher compared to the mono-infected cases [ $38.8 \pm 0.2^\circ\text{C}$  vs.  $39.8 \pm 0.2^\circ\text{C}$ ,  $p=0.013$ ].

**Conclusions:** We identified an intense circulation of respiratory pathogens among preschool children with ARTI, especially rhinovirus. Continued epidemiological surveillance among children is important in the context of the COVID-19 pandemic, to better understand the epidemiology and interactions between SARS-CoV-2 and other respiratory viruses in the paediatric population.

## ID257 Hypoxia-Inducible Factors in Clear Cell Renal Cell Carcinoma

Corina Daniela Ene<sup>1,2</sup>, Mircea Nicolae Penescu<sup>1,2</sup>, Cosmin Victor Ene<sup>1,3</sup>, Ilinca Nicolae<sup>4</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Carol Davila” Clinical Hospital of Nephrology, Bucharest, Romania

<sup>3</sup>„Sf. Ioan” Clinical Hospital of Emergency, Bucharest, Romania

<sup>4</sup>„Victor Babes” Clinical Hospital of Infectious Diseases, Bucharest, Romania

**Aim:** Hypoxia is a common activation mechanism of transcriptional inducible hypoxia factors (HIFs). In humans, three HIFs that modulate transcriptional programs, as response to hypoxia are known. In clear cell renal cell carcinoma (ccRCC), many mechanisms promote HIFs activation, the central role being played by hypoxia. The aim of the study was identifying a set of soluble factors associated with hypoxic tumoral micro-environment that could help in early diagnose of ccRCC.

**Material and methods:** A case-control study was developed and included a ccRCC group with 60 subjects, with localized ccRCC, diagnosed by histological exam and computed tomography, and 40 healthy subjects. All the subjects were clinically and biochemically monitored. We determined the levels of HIF-1a, HIF-1b in the two groups. In ccRCC, we analyzed HIF-1a, HIF-1b, and their ratio related to the tumor diameter.

**Results:** We detected significant higher levels of HIF-1a and HIF-1b in ccRCC compared with control group ( $p < 0.05$ ). When compared HIFs levels related to tumor diameter, we determined significant increase with tumor diameter and a decrease in HIF-1a/HIF-1b ratio.

**Conclusions:** Based on our results, hypoxia could be considered an important pathophysiological mechanism in ccRCC. The cellular response to tumoral hypoxic microenvironment was demonstrated by HIFs accumulation. In ccRCC, we demonstrated that HIF1a increase could be associated with early hypoxia, while HIF2a increase with late hypoxia.

## ID264 The Genetic Analysis of Gut Microbiota in Patients with Type 2 Diabetes Mellitus and End-Stage Renal Disease

Maria Trandafir<sup>1</sup>, Gratiela Gradisteanu<sup>2</sup>, Octavian Savu<sup>3</sup>

<sup>1</sup>Department of Pathophysiology and Immunology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Research Institute of the University of Bucharest (ICUB), Bucharest, Romania

<sup>3</sup>„N. C. Paulescu” Institute of Diabetes, Nutrition and Metabolic Diseases, Bucharest, Romania

Although we are confronted with an increase in the incidence of type 2 diabetes mellitus (DM2), the physio pathological mechanisms through which the gut microbiota influences the onset of DM2 are not thoroughly known.

This paper presents preliminary results of a study focusing on patients with type 2 diabetes mellitus and end-stage renal disease (ESRD), on chronic dialysis. We have included 13 patients: six women and seven men. Their results have been compared with those of a control group, containing eight healthy individuals.

Bacterial DNA has been extracted from stool samples. For the investigation of the gut microbiota, we have utilized primers for r16S RNA. Nine nanograms of DNA were isolated from the stool samples and we used SYBR Green 2X (Applied Biosystems) and 2,5 nM of RNAr 16S/18S primers. ViiA7 (Applied Biosystems) was used for amplification.

The gut microbiota of individuals with DM2 and renal disease was characterized by high levels of Gamma proteobacteria. Also, a significant increase in Enterobacteriaceae was observed in all patients with diabetes and renal disease. This bacterial population is associated with an inflammatory process in the colon and the presence of high levels of microorganisms from this family is a marker for intestinal dysbiosis. Furthermore, the Betaproteobacteria phylum is significantly more abundant in the samples from individuals with DM2 and ESRD. While we have observed in these patients significant reductions of the *Butyricicoccus* species, *Candida* sp and *Saccharomyces* sp were more abundant.

The results obtained focus our attention on the Gamma proteobacteria, Enterobacteriaceae and Betaproteobacteria families, as initiating and amplifying factors of intestinal inflammation, which, in its own turn, induces physiopathological mechanisms that initiate and amplify diabetes mellitus and chronic renal disease.

## ID270 A Clinical Case of Neonatal Gynecomastia with Galactorrhea

Alexandra Mirica<sup>1,2</sup>, Radu Mirica<sup>2,3</sup>, Diana Paun<sup>2,4</sup>, Diana Preda<sup>1</sup>, Ioana Anca Badarau<sup>2</sup>

<sup>1</sup>„Grigore Alexandrescu” Emergency Clinical Hospital for Children, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>„Sf. Ioan” Emergency Clinical Hospital, Bucharest, Romania

<sup>4</sup>„C.I.Parhon” National Institute of Endocrinology, Bucharest, Romania

**Objectives:** Neonatal gynecomastia is due to the transfer of maternal and placental estrogen and progesterone, occurring in approximately 50-70% of newborns boys. Hyperprolactinemia can stimulate neonatal breasts and can cause milk secretion in 5 to 20% of newborn boys.

**Methods:** We present the case of a newborn boy who was brought for asymmetrical bilateral breast enlargement observed from birth and later accentuated.

**Results:** The clinical examination revealed a child without fever, with normal anthropometric parameters corresponding to age, without phenotypic features, with pubertal development corresponding to stage 1 Tanner, normally conformed penis, without scrotal hyperpigmentation, with normally colored areolas, without pathological pubic hair, without café au lait spots. Bilateral breast enlargement was observed, although not symmetrical, with larger left breast, without any features of infection (edema, erythema). The usual investigations were within normal limits; also the hormonal evaluations indicated normal thyroid function, normal gonadotropic profile with a slight increase of prolactin values. Bilateral breast ultrasound identified bilateral breast glandular tissue.

**Conclusions:** We present the case of a newborn boy who was brought for asymmetrical bilateral breast enlargement who developed galactorrhea.

## ID271 mRNA COVID-19 Vaccine Reactogenicity: Results from an Active Survey among Healthcare Workers in a Paediatric Hospital from Bucharest

Maria Dorina Craciun<sup>1,2</sup>, Alina Andreea Tanase<sup>3</sup>, Mihaela Golumbeanu<sup>2</sup>, Bianca Georgiana Enciu<sup>1,4</sup>, Corina Elena Tenea<sup>5</sup>, Florin Busila<sup>6</sup>, Bianca Andreea Chipaila<sup>7</sup>, Daniela Pitigoi<sup>1,8</sup>, Alexandru Ulici<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Grigore Alexandrescu” Emergency Clinical Hospital for Children, Bucharest, Romania

<sup>3</sup>Emergency University Hospital, Bucharest, Romania

<sup>4</sup>National Institute of Public Health, Bucharest, Romania

<sup>5</sup>„Victor Babes” Clinical Hospital for Infectious and Tropical Diseases, Bucharest, Romania

<sup>6</sup>„Dr. Carol Davila” Central Military Emergency Hospital, Bucharest, Romania

<sup>7</sup>Emergency Hospital, Braila, Romania

<sup>8</sup>„Prof. Dr. Matei Bals” National Institute for Infectious Diseases, Bucharest, Romania”

**Objective:** The surveillance of adverse events following immunization (AEFI) is an important activity, especially for new vaccines such as COVID-19 vaccines.

We aim to present the utility of telephone interviews as an active surveillance tool of the AEFI among the staff of a paediatric hospital from Bucharest vaccinated against COVID-19.

**Method:** We conducted an active survey by telephone interviews on a sample of 79 persons vaccinated with mRNA COVID-19 Pfizer BioNTech vaccine, first dose on February 27 and with second dose on March 20. We used a standard questionnaire applied on the 7th day after each dose. Data on the frequency, duration and intensity of adverse reactions as reported by the vaccine's manufacturer were collected.

**Results:** First dose response rate was 96.2%. Median age of participants was 45 years and 80.3% were female. For the second dose the response rate was 96.0%, median age 42 years, 79.2% female.

The most frequent adverse reaction was mild pain at the injection site (59.2% for the first dose and 56.9% for the second). Systemic reactions were more common after the second dose rather than the first (38.9% vs 23.7% had at least one systemic reaction,  $P = 0.04$ ); the most common one was fatigue (25% and 10.5%, respectively). No major adverse events such as anaphylaxis were reported.

**Conclusions:** Active surveillance through telephone interviews allows all data collection to happen on a defined day after vaccination. The response rate was over 95% for both doses. Our findings suggest that local adverse reactions were the most frequent, systemic reactions being more common after the second dose.

## ID275 Assessment of Medical Students Knowledge and Behavior Regarding the Occupational Risk of Hepatitis B, Bucharest, May-June 2021

Andreea Marilena Pauna<sup>1,2</sup>, Elena Daniela Radu<sup>1,2</sup>, Bianca Georgiana Enciu<sup>1,3</sup>, Maria Dorina Craciun<sup>1,4</sup>, Daniela Pitigoi<sup>1,5</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Military Medicine Institute, Bucharest, Romania

<sup>3</sup>National Institute of Public Health, Bucharest, Romania

<sup>4</sup>„Grigore Alexandrescu” Emergency Clinical Hospital for Children, Bucharest, Romania

<sup>5</sup>„Prof. Dr. Matei Bals” National Institute for Infectious Diseases, Bucharest, Romania

**Objective:** To assess medical students' knowledge and behavior regarding the occupational risk of hepatitis B.

**Method:** An electronic questionnaire was administered to medical students attending the last course of Epidemiology. The questionnaire was comprised of 14 questions that evaluated personal behaviors and general knowledge regarding the occupational risk of hepatitis B. Participation was voluntary and anonymized. The study period was May-June 2021. Data collected was centralized into an Excel database. We present a descriptive analysis of the results.

**Results:** A total of 80 students were included in the study, 81.3% (65) were female, median age=23 years. Fifty-one students were studying Dental Medicine and 29 General Medicine.

45 participants (56.3%) were working into a medical setting, most of them having less than 3 years of professional experience (34/45).

51 responders (65%) identified the hepatitis B virus having the highest risk of transmission after a percutaneous blood exposure incident. Seventy-nine (98.8%) knew that the hepatitis B vaccine is recommended for medical personnel but only 51 (65%) reported that they were vaccinated. Almost all unvaccinated responders (15/16) reported that they want to get their hepatitis B vaccine in the future. 77.5% (62) of the participants indicated the protective level of anti-HBs antibodies, but 80% of them have never evaluated it.

Most participants (41/80) identified medical literature as their primary source of information regarding vaccination.

After a blood exposure incident, 34 responders (42.5%) would stimulate bleeding; 18 (22.5%) consider it was a correct behavior.

Also, 58 (72.5%) reported having recapped needles and 19 students (23.8%) reported having suffered a blood exposure incident.

**Conclusions:** The current study indicates the need for additional information of medical students regarding occupational risk. We also emphasize with the importance of recommendations for hepatitis B vaccination, where the situation requires it.

## ID278 Experience of a Trauma Centre During COVID-19 Outbreak

Iulia Alexandra Florea<sup>1</sup>, Iulia Raluca Darie<sup>1</sup>, Ioana Maria Dumitru<sup>1</sup>, Mirela Tiglis<sup>1,2</sup>, Cristian Cobilinschi<sup>1,2</sup>, Tiberiu Paul Neagu<sup>1,2</sup>, Ioana Marina Grintescu<sup>1,2</sup>

<sup>1</sup>Clinical Emergency Hospital, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

The primary aim of this study was to evaluate the activity of a multidisciplinary intensive care unit (ICU) during the ongoing pandemic created by the novel coronavirus (SARS-CoV-2). This situation led to the reorganization of the ICUs from all over the world in order to provide the much needed care of as many patients as possible. Our secondary aim was to identify the main characteristics of critically ill COVID-19 patients.

We performed a retrospective observational study which included 250 patients from the Department of Anesthesia and Intensive Care of the Bucharest Emergency Clinical Hospital. Demographics, comorbidities, used therapies, and mechanical ventilation data were collected and analysed using Microsoft Excel and MedCalc14.

From the 250 patients 40.8% (n=102) were female and 59.2% (n=148) male with an age ranging from 18 to 94 years (median of 68.5 years  $\pm$  14.38 SD). The cardiovascular comorbidities (arterial hypertension - AH, coronary ischemic disease - CID) were present in 24.4% of the patients (n=61), AH alone in 41.6% (n=104), CID in 4.4% (n=11) of cases. The respiratory comorbidities (asthma or chronic obstructive pulmonary disease) were present in 4.8% (n=12) and diabetes mellitus in 35.2% (n=88) patients. 62% (n=155) required invasive mechanical ventilation (IMV), 47.2% (n=118) non-invasive mechanical ventilation (NIMV), and 31.6% (n=79) high flow nasal cannula oxygen therapy (HFNC). Mean IMV period was 4.35 days, NIMV of 2.06 days, and HFNC of 1.9 days. Immunomodulatory therapy was administered in 24.8% (n=62) of the patients. 57.6% (n=144) presented a positive bacteriological test on admission. Mean ICU stay period was 9.41 days with a survival rate at 7 days of 71.4% and at 14 days of 55.25%.

COVID-19 is a polymorphic disease characterized by a variability of findings that exceeds the one we are already accustomed to, comorbidities and coinfections having an negative impact on clinical outcome.

## ID279 The Importance of Osteoporosis Screening in the Geriatric Population

Mihaela Roman<sup>1</sup>, Andreea Zamfirescu<sup>1</sup>

<sup>1</sup>Clinic of Geriatrics, „Sf. Luca” Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Osteoporosis is a frequent medical condition in elderly patients; low bone mineral density, falls and resultant fractures are associated with a large burden of morbidity and mortality. If osteoporosis is diagnosed early, hip fractures and surgery could be avoided, the paramount in the management of osteoporosis being the intake of adequate calcium and vitamin

D. The aim of our study is to underline the need for osteoporosis screening in the elderly.

**Method:** We conducted a retrospective study (Jan-Dec. 2020), by reviewing the case records of 82 patients with hip fracture hospitalized in a ward of an orthopedic hospital. The variables included: age, gender, length of hospitalization stay (LOS), type of surgical intervention, main comorbidities: high blood pressure (HBP), diabetes mellitus, obesity, and osteoporosis.

**Results:** 84% of hospitalized patients were over 65y.o. (geriatric population), mean age was 75.27 [38, 96] (SD: 10.80586); 85.4% were females. Only 14.6% of patients were diagnosed with osteoporosis before being admitted to the orthopedic ward with hip fracture (graphic1). Our data show that only 9.8% of patients did not have surgery or biopsy, all of them having over 65y.o. and associating comorbidities ( $p=0.061$ ). 71.4% of those without any comorbidity were under 65y.o. ( $p=0.001$ ). 91.5% of patients presented poly pathology, 64.4% had HBP ( $p=0.873$ ). The average number of LOS: 8.2days [2,24] (SD:3.51167). Most patients (58.5%) were hospitalized 6-10 days. HBP was associated with longer LOS: 86.8% were hospitalized over 6 days ( $p=0.023$ ).

**Conclusions:** Osteoporotic pathology is underdiagnosed; therefore, it is necessary to perform an active and correct screening in the elderly. Hip fracture, the main consequence of osteoporosis is specific to geriatric population. Poly pathology in elderly with hip fracture may lead to lack of surgery. Elderly patients with osteoporotic hip fracture that associate cardiovascular comorbidities are prone to longer hospitalization, their recovery needing more care.

## ID280 A Mixed Cause of Diarrhea in an 86-Year-Old Patient

Monica Grigore<sup>1</sup>, Sandica Bucurica<sup>1,2</sup>, Florentina Ionita-Radu<sup>1,2</sup>, Mariana Jinga<sup>1,2</sup>

<sup>1</sup>„Carol Davila” Central Military Emergency University Hospital, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** Microscopic colitis is a rare cause of diarrhea that must be considered in patients with chronic watery diarrhea that have no other lesions that can explain the symptoms. Moreover, it can be associated with protein-losing enteropathy, that must be considered as a complementary cause of diarrhea.

**Method:** We present the case of an 86-year-old female patient who came to our clinic complaining of a 6-month-old watery diarrhea and defecation urgency. The physical exam showed bilateral oedemas of the ankles and lesions of keratosis distributed diffusely over the body. The personal history of this patient showed a positive genetic test for lactose intolerance, but this diagnosis was made several years before the beginning of the actual symptoms and she was already on a special regimen. An abdominal computed tomography was performed and showed thickening of the wall of the left colon. A dosage of the fecal calprotectin was made and showed really high levels. Both upper and lower gastrointestinal endoscopy were performed, but no lesions were found. Blind biopsies were taken from the duodenum and the colon.

An explanation for the ankle oedema was also searched. There were no signs of denutrition, liver failure or heart failure and the urinalysis showed no nephrotic syndrome. The serum protein electrophoresis showed low levels of albumin.

**Results:** The histopathological exam of the biopsies that were taken from the colon showed specific changes for collagenous colitis. The hypoproteinemia and the oedemas were considered the result of a protein losing enteropathy associated.

**Conclusion:** An association between microscopic colitis and protein losing enteropathy was described before in literature, but no causal effect was found between them. Protein losing enteropathy must be considered as a complementary diagnosis in patients with microscopic colitis.

## ID283 Could Actigraphy Predict Hepatic Encephalopathy in Cirrhosis?

Oana-Mihaela Plotogea<sup>1</sup>, Madalina Stan-Ilie<sup>1</sup>,  
Gina Gheorghe<sup>1</sup>, Camelia Cristina Diaconu<sup>1</sup>

<sup>1</sup>*Emergency Clinical Hospital, „Carol Davila” University  
of Medicine and Pharmacy, Bucharest, Romania*

**Background:** Hepatic encephalopathy (HE) is encountered in a substantial percentage of people in covert form. Minimal HE it is predictive of the onset of overt hepatic encephalopathy and is associated with a poorer prognosis for outcome. Actigraphy is well-known as an objective method of assessing sleep disorders. However, it might also have a role in the diagnosis of minimal HE.

**Aim:** The study we conducted aimed to assess the association between actigraphic monitoring and psychometric testing in patients with chronic liver disease. **Methods.** Fifty-five patients (36M, 19F, mean age: 59,6±8,6 years) have been included in the study. We divided the patients in two groups: study group (included 32 patients with cirrhosis, Fibroscan F4) and control group (included patients with hepatitis, steatosis, Fibroscan F0-F3). The exclusion criteria referred to overt hepatic encephalopathy. The patients were asked to wear an Actiwatch Spectrum Pro for 7 days, 24/24 hours.

**Results:** We observed that cirrhotic patients experienced a more intense motor activity during night than non-cirrhotic, which was also associated with lower psychometric scores. Moreover, patients in the study group spent more time in bed compared to control group, but with poor overall sleep efficiency. Cirrhotic group had a significant number of awakenings during nighttime. We also investigated the PHES which proved to have a lower mean value in the cirrhotic group (-2.91±2.5) compared to control group (1.39±0.7).

**Conclusions:** Early diagnosis of minimal HE should be encouraged, in order to prevent progression and improve prognosis.

## ID291 Case Report in a 24-Year-Old Known with Burkitt Lymphoma and Persistent Symptoms of COVID-19

Simona Lupsa<sup>1</sup>, Ghiulten Apti<sup>2</sup>, Ariadna Petronela Fildan<sup>2,3</sup>, Oana Cristina Arghir<sup>2,3</sup>,  
Denisa-Gabriela Andrei<sup>1</sup>, Elena Dantes<sup>2</sup>

<sup>1</sup>*„Sf. Andrei” Clinical County Emergency Hospital,  
Constanta, Romania*

<sup>2</sup>*Clinical Hospital of Pulmonology, Constanta, Romania*

<sup>3</sup>*Faculty of Medicine, „Ovidius” University, Constanta,  
Romania*

**Introduction:** In confirmed cases of COVID-19 the most common symptoms are dry cough, fever, dyspnea, myalgia, joint pains, fatigue, gastrointestinal symptoms and neurological symptoms ( anosmia/ageusia), in some cases with one or more persistent symptoms after recovery.

**Methods:** A 24-year-old non-smoker man, with the following known pathological history: Burkitt's lymphoma over 6 years, with 2 sessions of polychemotherapy, the second one in 2019, since then in remission is presented to our hospital for persistent fever (39.4o C), persistent dyspnea and wet cough.

The first RT-PCR SARS-CoV-2 test was Negative. The symptoms persist so after 14 days the patient goes to the Emergency Department of the „Sf. Andrei” Hospital with worse dyspnea, fever, diarrhea, dry cough, and vomiting. At this time the RT-PCR SARS-CoV-2 test is Positive, and he is given treatment for 8 days with antiviral therapy (Remdesivir), antibiotic, corticotherapy and symptomatic with stabilization of clinical state.

After 2 days he returns to our hospital with the same symptoms: persistent fever, dry cough and diarrhea. He is tested again for RT-PCR SARS-CoV-2, which comes back positive and after 21 days is still positive.

In the first admission, the CT scan shows us specific bilateral areas of ground-glass opacities but in the second admission, the CT scan shows filling defects within the pulmonary vasculature with little pulmonary emboli.

**Results:** With the second treatment including antiviral (Favipiravir), 3 antibiotics, double systemic corticotherapy, anticoagulants and symptomatic, we have achieved a good clinical and paraclinical evolution with our patient.

**Conclusions:** Burkitt's lymphoma is a highly aggressive subtype of B cell non-Hodgkin's lymphoma and associated with COVID-19 infection may be deadly depending on the clinical general state of patient, the severity of COVID-19 and the remission status of Burkitt's lymphoma.

## ID293 Child's Autism Spectrum Disorders and Psycho-Socio-Economic Impact on the Family

Laura Voicu<sup>1</sup>, Ileana Mardare<sup>1</sup>,  
Dana Galieta Minca<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

**Aim:** To assess the quality-of-life impairment among parents of children with ASD, overall and from a psychological/social/economic perspective and by child's condition severity, and to identify the main challenges and the suggested solutions.

**Methods:** Observational, descriptive, cross-sectional survey, in a group of 140 parents of children with ASD. The instrument for data collection was a two sections questionnaire – one exploring socio-demographic characteristics and the Romanian version of “Quality of Life in Autism Questionnaire” (QoLA - Eapen et. al, 2014), applied both online and on paper. For data analysis we used Microsoft Office Excel, through descriptive statistics methods.

**Results:** The respondents were mainly mothers (90.71%), aged of  $37.76 \pm 6.36$  years, 70% from urban areas, 53.96% with over 1180 lei/family member net monthly income, 53.57% having only one child. In the children's group, aged of  $7.02 \pm 3.89$  years, 75.71% were male, 91.43% receiving specialized therapy, but insufficient hours. The QoL was globally low in 67.86% of the parents, 13.57% having severe impairment, with a statistically significant difference ( $p=0.0045$ , t-test) only between those having one child vs. two or more children ( $85.35$  and  $96.85$  mean scores, respectively). The financial domain was the most affected – 32.14% severe, with a linear, positive, moderate relationship between the level of QoL impairment and the child's condition severity (Pearson coefficient =  $0.392$ ,  $p = 0.0000093$ ). The most significant reported issues were the child with ASD' communication problems, income not covering the needs, lack of empathy in society, while the main suggested solutions included receiving the recommended hours of specific therapy, increasing governmental support, raising public awareness regarding ASD.

**Conclusions:** Despite the study limitations, the results and the QoLA - Romanian version can be useful for future larger-scale studies. Furthermore, increasing the awareness of specialists and competent authorities in regard to the reported issues and solutions could make a difference.

## ID296 Anxiety, Depression and Insomnia in Myeloproliferative Neoplasms: a Systematic Review

Mihnea-Alexandru Gaman<sup>1</sup>, Amelia Maria  
Gaman<sup>2</sup>, Camelia Cristina Diaconu<sup>3</sup>

<sup>1</sup>Department of Hematology & Center of Hematology and Bone Marrow Transplantation, Fundeni Clinical Institute, Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Pathophysiology, Clinic of Hematology, Filantropia City Hospital, University of Medicine and Pharmacy of Craiova, Craiova, Romania

<sup>3</sup>Department of Internal Medicine, Clinical Emergency Hospital, Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** Anxiety, depression and insomnia are frequently encountered in both solid and haematological cancer patients. However, there is little data available on the occurrence of anxiety, depression and/or insomnia in subjects living with myeloproliferative neoplasms (MPNs). Thus, we conducted a systematic review to investigate this topic.

**Methods:** A systematic search was computed in PubMed/MEDLINE, Web of Science and The Cochrane Library and, in total, 127 potentially relevant papers were detected. Following the removal of duplicates/reviews/case reports ( $n = 46$ ), 81 records were screened. After the exclusion of irrelevant manuscripts based on the screening of their titles and abstracts ( $n = 60$ ), we examined the full texts of 21 manuscripts. Finally, after we applied the exclusion and inclusion criteria, 20 original articles were included in this systematic review.

**Results:** Overall, the 20 studies assessed included 12921 patients and were conducted predominantly on international patient cohorts ( $n=8481$ ) or in solely in Europe ( $n=2601$ ), the United States ( $n=1520$ ) or Asia ( $n=319$ ). Most studies were observational in design and included all subtypes of BCR-ABL1-negative MPNs. Overall, a significant number of patients living with MPNs also suffered from depression, anxiety or insomnia which impacted heavily on their quality of life. The origin of these psychological/psychiatric manifestations was mixed, both disease-related and of extrinsic causes, e.g., the COVID-19 pandemic. Integrative medicine, e.g., yoga and meditation, and physical exercise, were successful in alleviating depression, anxiety, and insomnia in MPNs subjects.

**Conclusions:** Depression, anxiety and insomnia are common encounters in subjects living with MPNs. Future research is needed to understand the impact of these manifestations in these haematological disorders, as well as to explore pharmacological and non-pharmacological approaches, i.e., integrative medicine, to alleviate them and improve cancer care.

## ID298 Heart Failure and Sodium-glucose Co-Transporters-2 Inhibitors

Madalina Andreea Munteanu<sup>1,3</sup>, Anca Lungu<sup>3</sup>, Razvan Popescu<sup>1</sup>, Camelia Nicolae<sup>1,3</sup>, Andreea Hodorocea<sup>1,3</sup>, Camelia Diaconu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Internal Medicine, Clinical Emergency Hospital, Bucharest, Romania

<sup>3</sup>„Dr. Th. Burghel” Clinical Hospital, Bucharest, Romania

**Objectives:** Sodium-glucose Co-transporters-2 inhibitors (SLGT-2) represent a relatively new class of antihyperglycemic agent that has shown considerable evidence for benefit in heart failure reduced ejection fraction (HFrEF) patients with and without Diabetes mellitus type 2 (T2DM). These agents may help prevent primary and secondary hospitalization due to heart failure and cardiovascular death.

**Material and methods:** 110 patients (83 males and 27 females) with HFrEF according to the adapted guide, with T2DM were enrolled in the prospective study. The structural and functional state of the left ventricle myocardium and ejection fraction were assessed through echocardiography. Patients were randomized to receiving once-daily dapagliflozin 10 mg.

**Results:** Patients with HFrEF and T2D were divided in 3 subgroups according to their age. 7% (8) patients age < 45 years, 35% (28) patients age between 46-59 years and 58% (74) patients age > 60 years. The most prevalent comorbidities were hypertension (43.1%), coronary heart disease (40%) and obesity (33.2%). Study drug discontinuation and serious adverse events were not frequent in the subgroups, in either men or women.

**Conclusions:** SGLT-2 inhibitors are a novel class of antidiabetic agents that have demonstrated positive efficacy and safety outcomes in the setting of HFrEF. Until now in our study, dapagliflozin was safe and well-tolerated irrespective of sex.

## ID299 STAMINA - Assistive Technology Platform for Pandemic Prediction and Crisis Management

Sandu Adrian Pasat<sup>1</sup>, George Suciu<sup>1</sup>, Iulia Cristina Pop<sup>1</sup>, Daniel MODOACA<sup>2</sup>, Ana Ungureanu<sup>2</sup>, Dorin Ionescu<sup>2</sup>, Daniel Matei<sup>2</sup>

<sup>1</sup>Beia Consult International, Bucharest, Romania

<sup>2</sup>The Romanian Red Cross

**Objectives:** The STAMINA framework has been designed through a user perspective, with the following objectives:

- to create a set of guidelines and best practices to improve preparedness and response in case of crisis management situations,
- to provide stakeholders with easy-to-use software tools that complement EU-level systems,
- to increase the diagnostic capability of various epidemiological cases (measles outbreaks in 2018, Influenza during 2018-2019, H1N1 pandemic crisis, etc.).

**Methods:** To achieve these objectives, several methods, tools, and systems have been proposed, such as

- (i) Social Media Analysis Tool (WSMA),
- (ii) Antimicrobial Resistance Model (AIR),
- (iii) Lifelong physical activity modelling and simulation (PALMS),
- (iv) Dynamic Hospital Management (CHARM),
- (v) FLEE (is an agent-based modelling code),
- (vi) BIMS (is a predictive model), Machine Learning-Based Early Warning System (EWS), and Crisis Management Tool (CRISISHUB).

**Results:** The Faculty of Economic Sciences and Business Management from Babes Bolyai University in Cluj has recently developed a research project based on the STAMINA solution scope and methods. They proposed an online platform through which the university researchers involved in the scientific initiative can publish a series of relevant data on the economic impact of the COVID-19 pandemic (children presence in schools, unemployment rate, time spent outdoors, attendance to sports events, etc.) in the form of interactive infographics, meant to show a comprehensive, real-time image of the Romanian economic situation.

**Conclusions:** STAMINA proposes a complex framework and efforts are made to ensure project continuation. The COVINFORM project will: 1) assess COVID-19 responses in a multilevel governance framework; and 2) develop an online portal and toolkit for stakeholders in the governmental, public health, and civil society/community domains.

## ID301 From Splenic Lymphoma to Infective Endocarditis: a Reinterpretation of a Biological and Imaging Journey

Elena Stamate<sup>1</sup>, Sorina Mihaila Baldea<sup>1,2</sup>,  
Dragos Vinereanu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>2</sup>Emergency University Hospital, Bucharest, Romania

**Objective:** Splenic abscess is described as a rare complication of infective endocarditis (EI).

**Methods:** We present the case of a 43-year-old patient, who comes to the general surgery outpatient clinic for weight loss, night sweats, in the state of lack of feverishness, things that started a month ago. Following routine investigation, severe hypochromic microcytic anaemia, significant inflammatory syndrome and grade III splenomegaly were detected. Thoraco-abdominal-pelvic CT was performed and showed splenomegaly with bosselated margin and inhomogeneous structure by the presence of 3 hypodense nodular areas, non-iodophilic, with relatively clear contour, without other secondary determinations. Haematological consultation was requested, which raises the suspicion of splenic lymphoma - under observation. To remove the splenic formations, a pre-operative cardiological consultation is required. Transthoracic echocardiography reveals large, mobile hyperechoic formation of the anterior mitral valve and severe mitral regurgitation, 50% left ventricular ejection. Transoesophageal echocardiography is then performed, which confirms the 28 mm formation attached to the mitral valve, with perforation of the anterior sheet of the mitral valve and severe mitral regurgitation, and the presence of two vegetative formations suggestive of 5-8 mm in the aortic cusps, with grade III aortic insufficiency/ IV. Blood cultures are positive for *Staphylococcus aureus* MRSA, antibiotic therapy being adjusted depending on the result.

**Results:** Immediate splenectomy under antibiotic therapy, followed by surgical replacement of the affected valves is the basic strategy with a curative visa in the multidisciplinary approach to this polymorphic pathology.

**Conclusions:** Infective endocarditis should be considered as a differential diagnosis in all patients with splenic formations likely to be / evolve into splenic abscesses, even in the presence of a non-specific clinical and biological picture. According to the AHA and ESC, the current recommendations are for splenectomy before cardiac valve replacement, as newly implanted prostheses have a high risk of infection.

## ID302 Telemedicine Monitoring of Tailored Physiotherapy Program of Patients with Mild and Moderate Disabling Parkinson's Disease, During COVID-19 Pandemic Conditions

Elena-Catalina Lungu<sup>1,2</sup>, Aurelian Anghelescu<sup>1,2</sup>

<sup>1</sup>„Bagdasar-Arseni” Emergency University Hospital,  
Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

**Background:** The COVID-19 pandemic has forced the reorientation of rehabilitation programs for people with Parkinson's (PD).

**Material and methods:** A retrospective study was performed on patients with idiopathic PD, selected from the Neurorehabilitation Clinic database.

We studied 17 patients (5 women, 12 men), with a disease history of 1-12 years, aged between 51-70 years, with mild or moderate clinical forms (Hoehn & Yahr scores between 1-3 inclusive, average H&Y,  $2.4 \pm 0.6$ ), respectively an overall average MDS-UPDRS of  $41.3 (+/- 14.7)$ .

All patients underwent dopaminergic drug treatment with unchanged doses throughout the study. No patients had disabling osteoarticular problems, all being able to walk independently and no psycho-cognitive dysfunctions in MMSE testing.

Patients benefited from 10 days of physical therapy, being supervised at home by a family member, throughout the performance of coordinated procedures through telemedicine.

Walking dynamics was assessed by timing the “Get up and walk 3 m” (TUG) test.

**Results:** None of the patients was at increased risk of falling (TUG less than 16 sec). They all improved their locomotor performance, with a significantly decrease of TUG duration (average time from 13.50 seconds to 10.57). The average walking speed was significantly improved (initially 118 cm/sec, to 125 cm/sec).

**Discussion:** The TUG test is a useful tool for a global assessment of PD patients.

**Limitations of the study:** small group of patients, restrictive working conditions (due to epidemiological restrictions and social/physical distancing imposed by the SARS-Cov2, no direct physiotherapist-patient contact), need for patient supervision by an attendant, to assist him not to fall, and perform audio-video transmission).

**Conclusions:** Telemedicine has turned virtual space into a new reality and may compensate the restrictions imposed on face-to-face meetings. The regular and individualized physical-kinetic rehabilitation program can be achieved even in pandemic conditions, using modern telecommunication techniques, at for some PD patients.

## ID304 Algorithm for predicting the Evolution of Flaps Using Thermal Camera

Razvan Danciu<sup>2</sup>, Radu Cristian Jecan<sup>1,2</sup>,  
Cristina Marina<sup>1,2</sup>, Laura Raducu<sup>1,2</sup>

<sup>1</sup>Department of Plastic and Reconstructive Surgery,  
„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>2</sup>Department of Plastic and Reconstructive Surgery,  
„Prof. Dr. Agrippa Ionescu” Emergency Clinical  
Hospital, Bucharest, Romania

**Objectives:** The objective of the study is to present an easy and accessible instrument that, used in current medical practice, brings considerable benefits in the planning and follow-up of a reconstructive surgery using a local or distant flap. The thermal chamber has a temperature difference detection capability of 0.05 degrees Celsius, which allows areas of potential tissue injury to be identified before they become clinically visible. The advantages are multiple, as it is a cheap, indirect, non-invasive method that allows real-time and instantaneous data acquisition.

**Methods:** This presentation shows a series of cases demonstrating the utility of using the thermal camera in choosing the optimal operative plan, verifying it intra-operatively and monitoring the evolution to prevent complications by capturing pre, intra and postoperative images. The images obtained must be medically relevant, so for their acquisition we propose a standard protocol related to environmental conditions and patient positioning, according to international guidelines. Data processing and interpretation must be done by trained medical personnel, but in the current age of technology we also propose the possibility of an artificial intelligence algorithm to help physicians.

**Results:** The results obtained in the form of images can be exploited according to our needs. The identification of perforating arteries allows the planning of a personalized flap and increases the chance of survival. Intraoperatively, we assess the status of the arteries and flaps following surgical injury. The evolution of the flap is carefully monitored, with a critical period of 48 hours, and temperature changes accurately detected by the machine will alert the doctor to possible risks such as venous congestion, ischaemia or tissue necrosis and local infection.

**Conclusions:** The thermal camera is a useful and easy-to-use tool that guides the physician through all surgical steps, with the goal of achieving superior functional results.

## ID308 Main Features of the Hematological Parameters in Pregnant Smokers in the Third Trimester of Pregnancy

Cristina Angelescu<sup>1</sup>, Romina Sima<sup>2</sup>,  
Ioana Anca Badarau<sup>3</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>2</sup>Discipline of Obstetrics and Gynecology, 13th Clinical  
Department, Bucur Clinic, „Carol Davila” University of  
Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>1st Discipline of Physiology, 2nd Clinical Department,  
„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

**Objectives:** The primary objective of this study was to highlight how active smoking influences the main parameters of the blood count in pregnant women in the third trimester of pregnancy.

**Methods:** An analytical, observational, retrospective cohort study was performed by collecting and analyzing data from the patient observation and response charts. The study included 80 women, equally distributed in two groups: 40 subjects in the study group – actively smoking women in the third trimester of pregnancy and 40 subject in the control group – non-smoking females in the third trimester of pregnancy. A number of inclusion and exclusion criteria were met (in order to eliminate certain factors, clinical conditions, pathologies, substances that could influence the blood count). The database created from the two clusters was statistically analyzed in dedicated program, thus obtaining suggestive statistical and graphical data. The analyzed parameters were the following: RBC count, hematocrit, hemoglobin, MCH, MCHC, thrombocyte count, PDW, MPV, leukocytes, neutrophils, eosinophils, basophils, monocytes and lymphocytes.

**Results:** Following the comparative analysis of the two groups, statistically significant results ( $p < 0.05$ ) were recorded among the following parameters in the study group (smokers): the erythrocyte count – an increase of 6.98% compared to the control group, the increased hematocrit by 8%, MCHC increase by 6.77%, MCH increase by 8.36%, platelet count increase by 88.48%, leukocyte count increase by 21.6%, neutrophil count increase by 33.63%. There were also parameters whose values did not show significant differences between the two groups: hemoglobin, PDW, the percentage values of eosinophils, neutrophils and basophils.

**Conclusion:** Active smoking in pregnancy greatly influences the blood elements. Additional studies are needed to correlate the paraclinical aspects of this study with the potential clinical manifestations of the pregnant and actively smoking women.

## ID312 The Role and Efficacy of Image-Guided Transthoracic Biopsy in the Diagnosis of Lung Tumors

George-Alexandru Chirita<sup>1</sup>, Eddan Athir<sup>2</sup>,  
Stefan Dumitrache-Rujinski<sup>3</sup>,  
Claudia Lucia Toma<sup>3</sup>

<sup>1</sup>Faculty of General Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Radiology, „Marius Nasta” National Institute of Pneumology, Bucharest, Romania

<sup>3</sup>1<sup>st</sup> Department of Pneumophthisiology, „Marius Nasta” National Institute of Pneumology, Bucharest, Romania

**Objectives:** The aim was to evaluate the success rate of computed tomography (CT) and ultrasound guided transthoracic biopsies in the diagnosis of pulmonary lesions with peripheral location unapproachable by bronchoscopy.

**Methods:** We evaluated 224 patients in a period of 18 months (November 2019-March 2021) who were referred to “Marius Nasta Institute” with pulmonary lesions with a peripheral location. The biopsies were performed using a disposable needle that takes a tissue fragment, which is then sent to the laboratory.

**Results:** A number of 206 CT-guided (92%) and 18 ultrasound-guided (8%) biopsies were performed. There were 146 men (65.2%) and 78 women (34.8%) with an average age of 62.94 +/- 10.98 years. In CT-guided biopsies, 144 (69%) had primitive pulmonary malignancy with histological subtypes: adenocarcinoma (81), squamous cell (18), small cell carcinoma (2), unclassifiable NSCLC (43), etiology without tumor appearance in 20 cases, inconclusive in 11 cases and various etiologies (malignant secondary determinations, TB or non-TB infectious pathology, lymphoma, rheumatoid nodules) in 31 cases. In the cases of ultrasound-guided biopsies, the main etiology identified was also malignant in 15 out of 18 cases, with the subtypes: adenocarcinoma 5, squamous cell 1, unclassifiable NSCLC 2 and various (metastases) in 7 cases. The overall success rate (CT and echo guidance) of transthoracic biopsies was 94,64%. Complications were recorded in 44 cases (19,6%). The main complications were pneumothorax in 34 cases (of which 2 required pleural drainage), hemoptysis in 4 cases, 4 cases of pneumothorax and hemoptysis and 2 cases of subcutaneous emphysema.

**Conclusions:** Image-guided transthoracic biopsies are increasingly used as semi-invasive methods in the positive diagnosis of pulmonary formations with peripheral location unapproachable to classical bronchoscopy. The careful selection of patients by a multidisciplinary team ensures a high diagnostic success rate and low complications.

## ID315 Right Heart Remodeling in the First Year after Radiofrequency Catheter Ablation for Paroxysmal Episodes Predicts Long-Term Outcome

Lavinia-Lucia Matei<sup>1</sup>, Liviu Nicolae Ghilencea<sup>2</sup>,  
Gabriel Cristian Bejan<sup>3</sup>, Sebastian Stoica<sup>4</sup>,  
Calin Siliste<sup>5</sup>, Dragos Vinereanu<sup>6</sup>

<sup>1</sup>Department of Cardiology, „Elias” University Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Cardiology, „Elias” University Hospital, Department of General Medicine, Emergency University Hospital, „Carol Davila” University of Medicine and Pharmacy Bucharest, Romania

<sup>3</sup>Department of General Medicine, Emergency University Hospital, „Carol Davila” University of Medicine and Pharmacy Bucharest, Romania

<sup>4</sup>Department of Cardiology and Cardiovascular Surgery, Emergency University Hospital, Bucharest, Romania

<sup>5</sup>Department of Cardiology and Cardiovascular Surgery, Emergency University Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>6</sup>Department of Cardiology and Cardiovascular Surgery, Emergency University Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Background:** In patients with atrial fibrillation (AF), structural remodeling is a progressive process that involves all cardiac chambers. Early treatment by radiofrequency catheter ablation (RFCA) could prevent evolution and even determine revers remodeling. While left atrial is the main focus, right atrial (RA) remodeling is less investigated in AF patients.

**Aim:** To assess prognostic implications of right heart chambers remodeling in the first year after AF ablation for paroxysmal episodes on long-term outcome.

**Methods:** We enrolled 40 patients (56±10 years; 73% males) who underwent a first RFCA for paroxysmal AF; we excluded non-paroxysmal AF, ischemic, structural myocardiopathies, significant valvular diseases, uncontrolled risk factors for AF. Transthoracic echocardiography was performed before the procedure and repeated at 12-months follow-up. All patients were in sinus rhythm at the time of acquisitions. Right cardiac dimensions were measured in dedicated optimized views, using transversal diameters and end-systolic volume for RA.

**Results:** One year after RFCA, diameters of RA, ventricle (RV) and RA volume (RAVi) show significant revers remodeling ( $p=0.02$ ,  $p=0.01$ ,  $p=0.01$ ), while an increase in RV longitudinal function is measured using TAPSE ( $p=0.04$ ). RAVi is a predictor for long-term AF recurrences ( $p=0.04$ ), explaining 16.8% of episodes. Patients with a RAVi more than 21,15 ml/m<sup>2</sup> have a 1.148-times risk of AF recurrences. Also, RA ( $p=0.05$ ) and RV diameters ( $p=0.004$ ) are predictors for recurrences explaining 16% and respectively 50%

of AF episodes after the first year. A RA diameter more than 33.5 mm increases the risk of AF recurrences by 1.248-times, while a RV diameter over 33mm, increases risk of AF recurrences by 1.663-times.

**Conclusion:** Arrhythmia control with RFCA leads to significant right chamber dimensions reduction especially in patients with clinical success in terms of AF freedom. Right atrial and ventricular remodeling in the first year are predictors for long-term AF recurrences.

### ID317 Aortic Dilation as a Risk Factor for Early Cardiac Perforation after Interventional Closure of Patent Foramen Ovale

Adriana Andreescu<sup>1</sup>, Gratiela Cosmulescu<sup>1</sup>, Sorina Mihaila-Baldea<sup>1,2</sup>, Dragos Vinereanu<sup>1,2</sup>

<sup>1</sup>Emergency University Hospital, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Introduction:** Patent foramen ovale (PFO) is present in about 20% of adults.

Cardiac perforation after interventional PFO closure is a rare complication. It usually involves the presence of a deficient aortic rim, an oversized device or a misalignment of the defect with the aorta.

A dilated aortic root may be a risk factor for cardiac perforation and echocardiographers should analyse all surrounding structures before deciding which defect is amenable to closure.

**Case report:** A 57-year-old man, with a recent PFO related ischemic stroke, presented for elective endovascular closure. Two-dimensional and three-dimensional transesophageal echocardiography (2D and 3D TEE) revealed a 9 mm tunnel-like PFO, a floppy septum primum, and a moderate dilation of the aortic bulb (45 mm in diameter), but with normal valve morphology and no aortic regurgitation. The size, morphology, and surrounding rims of the PFO recommended a standard 25-mm Amplatzer device. The procedure was performed without complications.

Thirty-six hours later patient developed cardiac tamponade. Suspicion of right atrial wall perforation was raised and emergency cardiac surgery was indicated. Intra-operative 2D and 3D TEE: peri-aortic hematoma and a small colour shunt at the level of the aortic root. Surgical exploration: 3 mm perforation of the aortic root, caused by the occluder. The device was removed and the defects were sutured.

**Discussion:** Our patient did not present any of the classical known factors associated with a higher risk of perforation. However, he had a dilated aortic root with thin aortic walls, which favoured device impingement on the atrial and aortic wall, with consequent early perforation. This case shows the importance of pre-procedural evaluation by 2D and 3D echocardiography, and emphasizes the role of additional risk factors for cardiac perforation, apart from device sizing and defect morphology.

### ID322 Early Impairment of Left Ventricular Longitudinal and Radial Deformation in Primary Mitral Regurgitation

AE. Balinisteanu<sup>1</sup>, D. Mihalcea<sup>1</sup>, Sorina Mihaila<sup>1</sup>, H. Memis<sup>1</sup>, Dragos Vinereanu<sup>1</sup>

<sup>1</sup>Department of Cardiology, Emergency University Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Aim:** To assess the impact of primary mitral regurgitation (PMR) on left ventricular (LV) longitudinal and radial deformation parameters.

**Methods:** 48 patients (56±14 years, 42% men) with PMR (mild - 12 patients, moderate - 12 patients, severe - 24 patients) and 50 age and sex matched-controls (56±12 years, 48% men) were analyzed by 2-dimensional speckle-tracking echocardiography (2D STE) for LV endo, mid, and epicardial longitudinal strain (LS); endo, mid, and epicardial circumferential strain (CS); and radial strain (RS). LV volumes and EF, and LA volumes and emptying fraction (EmF) were measured by 3D echocardiography. MR severity was quantified by vena contracta (VC), PISA radius, MR regurgitant volume, and EROA measurements, according to 2021 ESC guidelines.

**Results:** 3D LVEF had no significant difference between PMR patients and controls (p= 0.11). From control subjects to mild, moderate, and severe PMR, there was a progressive reduction of LS and RS, but not CS. By 2D STE multilayer analysis, when compared to controls, PMR patients had decreased endo-, mid-, and epi-LS (p<0.04), with a compensatory increase of endo-LS in mild PMR. Basal, middle, and apical segments LS decreased similarly and progressively from control subjects to PMR patients (p<0.01). In addition, in PMR patients only LS, but not RS or CS, correlated with MR severity (PISA radius, VC, and MR regurgitant volume: r= -0.43, r= -0.32, r= -0.38; p<0.01), and LA function (EmF: r = -0.41, p<0.01).

**Conclusion:** When compared to normal subjects, patients with PMR and preserved LVEF have altered LV longitudinal and radial deformation, with preserved CS. All longitudinal layers and LV segments were similarly affected. Only LS correlates with MR severity and atrial function. Our study suggests that a comprehensive evaluation of LV deformation should be included in the assessment of PMR patients, in order to identify early stages of LV dysfunction.

## ID323 Investigation of Microorganisms in Epidermolysis Bullosa Wounds

Alina Suru<sup>1</sup>, Adelina Maria Sendrea<sup>1</sup>, George Sorin Tiplica<sup>2</sup>, Carmen Maria Salavastru<sup>1</sup>

<sup>1</sup>Department of Pediatric Dermatology, Colentina Clinical Hospital, Bucharest. „Carol Davila“ University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Second Clinic of Dermatology, Colentina Clinical Hospital, „Carol Davila“ University of Medicine and Pharmacy, Bucharest

**Objectives:** Patients with epidermolysis bullosa develop chronic wounds that are often colonized with a variety of microorganisms. They require daily care and personalized treatment plan. The objective was to identify the most common microorganisms isolated on cultures from patients with epidermolysis bullosa, as well as patterns of antimicrobial resistance.

**Methods:** This retrospective observational study included 20 epidermolysis bullosa patients (14 children and six adults) from February 2018 to August 2021. Sixteen patients had the dystrophic recessive form, three the simplex form, and one had epidermolysis bullosa acquisita. Wound swabs were collected from all the subjects within the scheduled follow-up visits.

**Results:** From our 20 patients, 140 wound cultures were collected; 105 (75%) of the swabs were positive, and 35 (25%) were negative. Seven microorganisms were identified: Methicillin-susceptible *Staphylococcus aureus*, Methicillin-resistant *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, *Enterococcus faecalis*, *Proteus* Spp. and Group A  $\beta$ -hemolytic streptococcus. Sixteen patients (80%) presented wounds colonized with *Staphylococcus*; for nine patients (45%) *Methicillin-susceptible Staphylococcus aureus* was isolated and seven patient's wounds (35%) were colonized with *Methicillin-resistant Staphylococcus aureus*. Five patients (25%) presented multiple pathogens identified in one swab at least in one determination (e.g: *Methicillin-susceptible Staphylococcus aureus* and *Pseudomonas aeruginosa*, or *Methicillin-resistant Staphylococcus aureus* and *Enterococcus faecalis*).

**Conclusions:** Numerous organisms, including resistant bacteria, colonize the epidermolysis bullosa wounds. Bacterial colonization of chronic wounds can lead to infections and may also impact wound healing. Following recommendations for wound care does not guaranty a good outcome of the infection. Good knowledge of the type of bacteria affecting epidermolysis bullosa wounds and their patterns of resistance may be useful in planning strategies for decolonization and may improve the outcomes.

## ID329 Treatment of Dysbiosis in Uncomplicated Diverticular Disease of the Colon

Andreea-Manuela Franculescu-Berteau<sup>1</sup>, Ionel Copaci<sup>1</sup>, Laura Iliescu<sup>1</sup>

<sup>1</sup>Fundeni Clinical Institute, Bucharest, Romania

20% of patients with diverticular disease may manifest clinical illness and a worse quality of life.

**Objective:** The aim of the study: to comparatively evaluate the long-term efficacy of probiotics (*S. boulardii*) and dietary fibers in reducing symptoms and to prevent both recurrent attacks and complications.

**Methods:** 73 patients with uncomplicated diverticular disease enrolled in the study, age between 18-85 years, with endoscopic/radiologic evidence of diverticular disease, randomly assigned to one of the two regimens - 43 pts received probiotics (*S. Boulardii*) bid, 15 days/month, 30 pts received dietary fiber supplementation 2-4 gr/day, 15 days/month.

**Exclusion criteria** - solitary diverticulum of the colon, diverticulitis, previous colonic surgery, concomitant colonic or extracolonic cancer, antibiotics in the previous 4 weeks, chronic hematological and/or renal diseases, pregnancy or lactation.

**Clinical evaluation** - questionnaires at admission and every month for 3 months follow-up period. Clinical variables (upper or lower abdominal pain/discomfort, bloating, tenesmus, diarrhea, fever, nausea, emesis, dysuria, bleeding) were graded as:

- 0: no symptoms
- 1: mild symptoms, easily tolerated
- 2: moderate symptoms, cause interference with usual daily activities
- 3: severe, inability to perform normal activities

The Global Symptomatic Score (maximum score=36) was assigned to each patient at every clinical evaluation. Biochemical parameters were determined before and at the end of treatment period

**Conclusions:** Cyclic administration of probiotics with *S. boulardii* and dietary fiber is effective for the symptomatic relief of uncomplicated diverticular disease of the colon, significantly reduces the probability of complication development, is safe and well-tolerated by patients.

## ID330 Diabetes Mellitus and Hepatocellular Carcinoma in the Setting of Hepatitis C Chronic Infection

Adriana Mercan-Stanciu<sup>1</sup>, Elena Laura Iliescu<sup>1</sup>

<sup>1</sup>Department of Internal Medicine II, Fundeni Clinical Institute, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Aims:** Both diabetes mellitus (DM) and neoplasia are multifaceted, long-lasting, life-threatening diseases with a remarkable influence on global health nowadays. The connection between these two entities has been a highly discussed topic for decades. Moreover, growing evidence suggests that DM is a common extra-hepatic implication of Hepatitis C Virus (HCV) infection. This paper aims to further evaluate the effect of diabetes mellitus on the development of hepatocellular carcinoma, in chronic hepatitis C patients treated with direct acting antivirals.

**Methods:** We conducted a retrospective cohort study on 797 patients, infected with hepatitis C virus genotype 1b, treated with direct acting antivirals. Patients were monitored by liver function tests, blood cell count, coagulation profile and tumoral markers before therapy, at end-of-treatment (EOT), as well as 3 months after treatment completion. Imagistic evaluation routinely included Fibroscan® and abdominal ultrasonography while, in selected cases, computerized tomography/ magnetic resonance imaging was required for further characterization.

**Results:** Hepatocellular carcinoma prevalence was higher in diabetic patients than in those with normal glucose metabolism, with an even higher prevalence in individuals requiring insulin-therapy. Almost half of the HCC cases were discovered during antiviral treatment, but antiviral medication was not stopped and all patients achieved sustained virologic response.

**Conclusion:** Patients diagnosed with DM are at risk of developing HCC, while some oral antidiabetic drugs are associated with a lower incidence of HCC. Achieving sustained virologic response through direct acting antivirals is an important step in obtaining a better glycaemic control in patients with DM. The findings within our retrospective cohort study align with the data found so far in the medical literature.

## ID331 Sudden Cardiac Death in a Patient with Infective Endocarditis

Irina-Gabriela Tanase<sup>1</sup>, Iuliana Diac<sup>1,2</sup>, Violeta Ionela Chirica<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy  
<sup>2</sup>„Mina Minovici” National Institute of Legal Medicine

**Introduction:** Infective endocarditis (IE) remains a challenge in medical practice, from both points of view, diagnosis and treatment, but also its severe complications which are usually lethal. The aim of the study was to assess the incidence of IE in legal medicine practice in Romania and illustrate the scarcity of it as a cause of sudden death.

**Materials and methods:** In a descriptive retrospective study using the „Mina Minovici” National Institute of Legal Medicine database from 2013-2019 we selected only the cases where infective endocarditis was assigned as the main cause of death.

**Results:** From 13.347 autopsies performed between 2013 and 2019, only 26 deaths were caused by infective endocarditis, resulting in an incidence proportion of 0.19%, with predominance in males (21 cases). The average age of death was 37 years which can be explained by the high association of young males with risk factors such as HIV, intravenous drugs, and cardiovascular diseases. The main cause of death was multiple organ system failure (58%), followed by cardiac failure (28%), bronchopneumonia (8%) and ischemic events (7%). Out of 26 autopsies, we only found one case of sudden death in a 43-year-old male with previously undiagnosed bicuspid aortic valve and lethal IE, without alarming clinical manifestations prior to death.

**Conclusion:** Infective endocarditis is a rare condition with serious consequences on the vital prognosis. The clinical presentation is usually recognized, but atypical cases are slightly problematic, leading often to misdiagnosing. Cardiac congenital defects should be considered in young adults. Sudden cardiac death caused by infective endocarditis is rare and classified as a non-violent death, but due to its unexpected occurrence, the legal medicine autopsy will be performed.

## ID332 Right Heart Function and Remodeling, Measured by 3DE, are the Best Independent Predictors for Death and Cardiac Events in HFmrEF or HFrEF

AE. Velcea<sup>1</sup>, Sorina Mihaila-Baldea<sup>1</sup>, H. Memis<sup>1</sup>, D. Mihalcea<sup>1</sup>, A. Andreescu<sup>2</sup>, S. Calin<sup>1</sup>, Roxana Rimbas<sup>1</sup>, Dragos Vinereanu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Emergency University Hospital, Bucharest, Romania

**Background:** In patients with HFmrEF and 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 comparative prognostic value of parameters of right heart size and function, measured by 2DE and 3DE.

**Methods:** 135 consecutive patients ( $61 \pm 16$  years, 88 males), hospitalized for decompensated HFmrEF or HFrEF, were assessed by 2DE and 3DE. By 2DE we assessed RV diameter, RV end-systolic (RVES) and end-diastolic areas (RVEDA), RV fractional area change (RV-FAC), and TAPSE; RA diameters and volumes. By 3DE we assessed RA maximal and minimal volumes (RAV<sub>max</sub> and RAV<sub>min</sub>); RV maximal diameter, RVFAC, RV end-diastolic (RVEDV) and end-systolic volumes (RVESV), RV ejection fraction (RVEF), and TAPSE. Patients were followed for 5 years after the index event. Primary outcome was mortality. Secondary outcomes were a composite end-point (CE) of death and hospitalization for heart failure (HHF); HHF; and a composite end-point (MACE) of death, HHF, myocardial infarction.

**Results:** During follow-up, we recorded 52 deaths, 70 CE, 36 HHF, and 73 MACE. Comparing non-survivors to survivors, there was a significant difference for 3DE assessment of RV maximal diameter, TAPSE, RV-FAC, RVESV, and RVEF. 2DE parameters were not different. In a linear multivariate model that included 2DE RA diameter and RAV<sub>max</sub>, 3DE RAV<sub>max</sub> and RAV<sub>min</sub>, only the 3DE RAV<sub>min</sub> was an independent predictor for death ( $p < 0.001$ ,  $\beta = 0.37$ ), CE ( $p = 0.005$ ,  $\beta = 0.31$ ), HHF ( $p = 0.001$ ,  $\beta = 0.40$ ), and MACE ( $p = 0.003$ ,  $\beta = 0.32$ ). By ROC analysis, a 3D RVEF  $< 40\%$  was able to predict mortality with a Ss of 89% and a Sp of 69% (AUC=0.81).

**Conclusion:** RV function and RA remodeling, measured by 3DE, are the best independent predictors for death and cardiac events in patients with HFmrEF or HFrEF.

## ID346 Pediatric Psoriasis and Possible Associated Medical Conditions – a Retrospective, Analytic Study

Adelina-Maria Sendrea<sup>1,2</sup>, Alina Suru<sup>1,2</sup>, Carmen Maria Salavastru<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Pediatric Dermatology, Colentina Clinical Hospital, Bucharest, Romania

**Objectives:** This paper's objective is to highlight a clinico-epidemiological profile of pediatric psoriasis patients. It emphasizes on potential associated conditions identified during first consultation.

**Method:** Retrospective, analytic, study performed on 92 pediatric patients with various types and severity degrees of psoriasis.

**Results:** No significant difference regarding gender distribution was noticed (F:M=44:48). Mean age was 9.5 years old, with the youngest patient being one year old and the oldest being 17 years old. The most prevalent clinical type of psoriasis was disseminated psoriasis vulgaris (39 cases) and the least frequent one was inverse psoriasis (six cases). According to PASI score, most cases were mild (60 patients), followed by 23 moderate and nine severe cases. Five patients had an atopic background. Although most patients had normal weight, 11 patients were obese and nine overweight. Three patients associated arterial hypertension (one new diagnosed case) and one of them also cardiac failure, while two other patients had preexisting diabetes mellitus. Upon the evaluation performed in our clinic, nine patients were identified with thyroid dysfunction (five with hypothyroidism and four with autoimmune thyroiditis – three cases of euthyroidism and one of hypothyroidism) and referred to endocrinologist. Inflammatory syndrome was identified in ten cases. 21 patients had a positive family history of psoriasis, while nine had other inflammatory skin conditions in their family (atopic dermatitis, vitiligo).

**Conclusions:** Most cases of pediatric psoriasis are mild disseminated psoriasis vulgaris cases, equally affecting both genders. One fourth presents positive family history of psoriasis, highlighting the importance of genetic component in this disease. More than 70% of patients have no associated conditions. However, almost 30% present with increased BMI (mean percentile value 96), arterial hypertension, diabetes mellitus, thyroid dysfunction, or inflammatory syndrome, calling attention to the importance of screening for systemic conditions in selected cases.

### ID 353 Clinical, Epidemiological, Diagnostic, and Therapeutic Aspects of *Echinococcus granulosus* Infection in Paediatric Patients

Razvan-Daniel Parcanschi<sup>1</sup>, Adela Vekony<sup>1</sup>, Gabriela- Loredana Popa<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** The *Echinococcus granulosus* infection causes cysts in several anatomic locations; it was first discovered in Ancient Greece, and the most prevalent form is hepatic hydatidosis. Romania is a hyperendemic country with a disease incidence of 5 cases per 100 000 residents, and children accounting for 18% of those. Most commonly, the infection manifests with hepatic pains, dyspeptic syndrome, decreased appetite, nausea, malaise, and skin rashes. This study aims to evaluate the epidemiological, diagnostic, and treatment particularities in children with hydatid cysts.

**Materials and Methods:** A retrospective study was conducted on 34 patients aged between 2 and 18, using data from their files at Colentina Hospital's Parasitology Clinic. The diagnosis has been made based on epidemiological records, clinical exams, imaging (echography, CT, etc.) and immunologic (ELISA) tests.

**Results:** Thirteen of the 34 individuals had no symptoms of disease and were detected during routine or unrelated examinations. Hepatic cysts were found in 62% of patients, pulmonary cysts in 26%, and cysts in various organs in the remaining cases; 85% had a primary form of hydatidosis. Moreover, 59% of patients had positive markers for the inflammatory syndrome, 24% for hepatic cytolysis, and 63% for eosinophilia.

**Conclusions:** The findings are conclusive with existent medical data. Hydatidosis most commonly affects the liver with characteristic symptoms, but can also affect the lungs, spleen, peritoneum. Clinical, immunological, and imaging tests are necessary for an effective diagnosis; surgical and medical treatments are most effective when combined.

### ID354 Late Neurosyphilis – a Forgotten Etiology for Cognitive Impairment?

Livia-Mihaela Selescu<sup>1,2</sup>, Radu Mihailescu<sup>1</sup>, Raluca Florea<sup>1</sup>, Oana Arama<sup>1</sup>, Sanda Maria Nica<sup>1,3</sup>

<sup>1</sup>Department of Neurology, Colentina Clinical Hospital, Bucharest, Romania

<sup>2</sup>Colentina-Research and Development Center, Colentina Clinical Hospital, Bucharest, Romania

<sup>3</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** In the antibiotic era, syphilis became a very rare diagnosis. Bacterial invasion of central nervous system by *Treponema pallidum*, usually 10 to 25 years after the initial infection, causes general paresis, a form of late neurosyphilis associated with symptoms like cognitive impairment, mood disturbances and psychosis. It is due to chronic meningoencephalitis resulting in cerebral atrophy.

**Method:** We present the case of a 67 years old man with progressive personality changes and irritability starting insidiously two years before and cognitive impairment, psychosis, severe limb hypotonia and impossibility of walking, occurring suddenly five months before. Mini -Mental State Examination (MMSE) was 21 and Montreal Cognitive Assessment score(MOCA) on admission was 16, suggesting a mild cognitive impairment with executive dysfunction.

**Results:** Serologic testing for syphilis was positive with quantitative treponemal hemagglutination test (TPHA) antibodies dilution of 1/640 and also for quantitative Venereal disease research laboratory (VDRL). Subsequent analysis of cerebrospinal fluid showed elevated lymphocytes (188 cells/mm<sup>3</sup>), a protein concentration of 81.20 mg/dl and a positive quantitative titre of TPHA of 1/20 and positive quantitative VDRL of 1/2 dilution. The patient was negative for Human Immunodeficiency Virus (HIV).

He received penicillin G intravenously for 14 days and he started to walk again using aid. His status on discharge was stable with no psychotic episodes or irritability and no further cognitive deterioration.

**Conclusion:** Neurocognitive decline could be one of the key symptoms domains in neurosyphilis. The case of our patient highlights the importance of specific differential diagnostic in front of rapid onset cognitive decline with spotlight to sexually transmitted disease as syphilis.

## ID358 Factors Associated with the Evolution of Skin and Soft Tissue Bacterial Infections

Madalina Preda<sup>1,2</sup>, Mara Madalina Mihai<sup>1,3</sup>,  
Cristiana-Cerasella Dragomirescu<sup>1,2</sup>, Lacramioara  
Corciu<sup>1</sup>, Gabriela Loredana Popa<sup>1,4</sup>, Loredana  
Cornelia Sabina Manolescu<sup>1</sup>, Mircea-Ioan Popa<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>2</sup>„Cantacuzino” National Medical Military Institute for  
Research and Development, Bucharest, Romania

<sup>3</sup>Elias Emergency University Hospital, Bucharest,  
Romania

<sup>4</sup>Colentina Clinical Hospital, Bucharest, Romania

**Objectives:** Skin and soft tissue infections have an important impact on patients' health, as well as on their social and mental well-being. Since multiple factors are incriminated to influence the outcome of the disease, we evaluated the impact of lifestyle and behavior on the evolution of the disease.

**Methods:** We performed a survey including 42 patients with bacterial skin and soft tissue infections. The questionnaire had multiple choice questions and opened answer questions. The participants were interviewed after signing a written informed consent.

**Results:** Out of the 42 participants, 34 agreed to participate, among which 20 were female. More than half of the participants (52.94%) had bachelor studies. Most of the participants (58.82%) had a diet based on vegetables and fruits, and approximately half of them consumed sweet, carbonated drinks. A quarter of the participants consume at least one cup of coffee per day. A third of the participants consume alcohol once a month or less and have between 6 to 8 hours of sleep per night. The most frequent associated pathologies were polycystic ovary and diabetes.

**Conclusions:** Based on the survey, the participants included in this study seem to have a healthy diet, with a lot of vegetables and antioxidants. The patients consume reduced amounts of alcohol. The healthy lifestyle might have a favorable impact on the evolution of the skin and soft tissue infections.

## ID361 Knowledge, Attitudes, and Behaviors of Healthcare Workers Towards Varicella

Madalina Preda<sup>1,2</sup>, Loredana Cornelia Sabina  
Manolescu<sup>1</sup>, Mara Grasu<sup>1</sup>, Gabriela Loredana  
Popa<sup>1,3</sup>, Cristiana-Cerasella Dragomirescu<sup>1,2</sup>,  
Mircea-Ioan Popa<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>2</sup>„Cantacuzino” National Medical Military Institute for  
Research and Development, Bucharest, Romania

<sup>3</sup>Colentina Clinical Hospital, Bucharest, Romania

**Objectives:** Varicella remains a serious threat, especially for children. The infection and complications could be reduced if the level of knowledge regarding the transmission and prevention would be improved. We evaluated the knowledge of healthcare workers towards varicella.

**Methods:** We designed a questionnaire and applied it to 64 healthcare workers, between February and June 2021. The survey included 24 questions with simple, multiple and short answer. Six of questions were designed for the social demographic data and the rest evaluating their knowledge in regard to transmission, manifestations and prophylaxis of the infections with the varicella virus.

**Results:** The participants had a median age of 39 years old, of which fifty-two of the participants were female. The most frequent source of information was the internet and the general practitioner. Almost all the participants knew varicella is produced by a virus, and 86% have chosen the correct option regarding the transmission. Most of the participants recognized the most frequent symptoms, such as rash with blisters, but a small part of them also mentioned diarrhea as symptom. 93.8% of the participants know about the vaccine.

**Conclusions:** The participants have reliable sources of information, such as their general practitioner, but they also rely on the internet, where they might find wrong information as well. The majority of the participants have good knowledge in regard to the symptoms, transmission and prevention of the varicella. A next step should be performing campaigns to encourage the healthcare workers to promote their knowledge to the general population.

## ID367 46,XX Male Syndrome

Ovidiu-Virgil Maioru<sup>1</sup>, Bianca Streja<sup>2</sup>, Radu-Ioan Rusu<sup>1,2</sup>, Catalina Micu<sup>1</sup>, Mihaela Radu<sup>1</sup>, Alina Pradatu<sup>1</sup>, Viorica-Elena Radoi<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>National Institute for Mother's and Child's Health, Bucharest, Romania

46,xx male syndrome affects 1 in 20.000 newborns. It results during the crossover of the X chromosomes and Y chromosome outside of the pseudoautosomal region during Meiosis 1, when the SRY gene transfers on the X chromosome.

An embryo's sex is determined by the presence of the SRY gene, which is located on the Y chromosome. The gene influences the bipotential gonad that evolves into a testis, and later results in a masculine phenotype and a feminine genotype.

Our objective is diagnosing the syndrome and establishing a personalised management plan for the treatment.

**Case report:** We are presenting the case of a 28 year old patient, 18 weeks pregnant, with a double-test for 18-trisomy “high-risk”.

From the qF-PCR performed on the amniotic fluid resulted a genetical profile of 2 X chromosomes and 1 SRY gene, suggesting a 46,xx male syndrome. We recommended the continuation of examinations starting with the fetal karyotype which seemed like a normal 46,xx. Further investigation with FISH probes showed 2 light signals for X chromosome bindings and 1 light signal for Y chromosome binding.

**Conclusions:** The family should be counseled that empirically the presentation of 46,xx testicular DSD is expected to be that of a male with concerns related to delayed puberty, hypotrophic hypogonadism and likely infertility, but without any learning or behavioral disabilities or developmental delay.

The prognosis is excellent. The patients present normal intelligence and live a normal life span. Surgery can usually correct the physical difformities.

Identification of apparent ultrasound fetal sex discordances with qF-PCR results and reporting the suspicious cases to the laboratory provides an opportunity for further evaluation, to identify the root cause of the discordances through the involvement of a multi-disciplinary team necessary to prepare for postnatal care.

We propose a protocol for evaluation of these cases.

## ID368 The Importance of Multidimensional Geriatric Assessment and Management of Frailty Syndrome in the Elderly – Case Presentation

Ioan Razvan Dumitrescu<sup>1</sup>, Medeea Ghelasa<sup>1</sup>, Silvia Marinescu<sup>1</sup>, Andreea Zamfirescu<sup>1</sup>

<sup>1</sup>„Sf. Luca” Hospital for Chronic Disease, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Frailty is a common clinical syndrome in older adults that carries an increased risk for poor health outcomes: increased hospitalization, institutionalization and even death. The aim of this presentation is to emphasize the importance of multidimensional geriatric assessment in the context of frailty syndrome as a key factor for establishing a recovery treatment.

**Method:** An 80-year-old patient, multiple cardiovascular risk-factors (hypertension, dyslipidemia, diabetes), repeated ischemic stroke with moderate neurocognitive disease (2018), triple coronary bypass (2014), bilateral carotid atherosclerosis, multiple visits to the E.R (6 in 2021, 40 in 2020). Physical examination: altered general physical condition, overweight-BMI: 30.81, can't walk without the help of an assistive device, tendency to retropulsion, dyspnea on exertion, HR: 67/min, BP: 120/70 mmHg, moderately altered levels of perception and temporo-spatial-orientation.

**Results:** Electrocardiogram: NSR, HR: 60/min, T-waves flattened and q wave in the anteroseptal (V1-V3) and lower: DIII and avF territory. Ankle-brachial index: right:1.13, left:1.13. Laboratory: Blood glucose monitoring: 116-194 mg/dl, HgA1c 5.55%; Lipid profile: LDL 113 mg/dl, HDL 32.36 mg/dl; urea 51.6 mg/dl, GFR=60 ml/min/1.73m<sup>2</sup>; thrombocytopenia; Albumin-to-creatinine ratio: 50.69. Multidimensional geriatric assessment: Functional Capacity Evaluation: ADL=5/6, IADL=2/8 (moderate physical dependence, limited self-care). Geronto-psychological evaluation: MMSE=20 pts (moderate-cognitive-impairment), Clock drawing test=4/10 pts; MNA (Mini Nutritional Assessment)=19 pts (at risk of malnutrition). Fried Frailty Index: 5 criteria (frail-fig.1). After complex and correct geriatric assessment, evaluation of each associated pathology and correct pharmaceutical treatment as well as physio-kinotherapy programs and cognitive stimulation, the patient had a favorable evolution with increased capacity of effort and improved autonomy. Educating the family to understand the pathology and nursing care methods helped to avoid future unnecessary E.R. visits.

**Conclusions:** Early detection of the risk factors for frailty, multidimensional geriatric assessment in the context of frailty syndrome and personalized geriatric rehabilitation can lead to improved quality of life in the elderly patients.

## ID370 Virtual Reality-Rehabilitation and Treatment of Balance Disorders in Children with Neurological Pathology

Mihaela Florea<sup>1</sup>, Ovidiu Mirica<sup>2</sup>,  
Radu Mihai Avram<sup>3,4</sup>, Liliana Padure<sup>3,4</sup>

<sup>1</sup>Faculty of Nursing and Midwives, „Carol Davila”  
University of Medicine and Pharmacy, Bucharest,  
Romania

<sup>2</sup>Elias Emergency University Hospital, Bucharest,  
Romania

<sup>3</sup>„Dr. Nicolae Robanescu” National University Center  
for Children Neurorehabilitation, Bucharest, Romania

<sup>4</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

**Introduction:** The application of this form of treatment and possibilities of multimodal approach - used within the Dr. Nicolae Robanescu Center, registers favorable results - through the virtual reality (RV) devices PRO-KIN 252 with which we were able to perform the Romberg Apparatus Index - from where we extracted the following data: Ellipse area (mm<sup>2</sup>); Perimeter of the ellipse (mm); Medium-lateral standard deviation (MD); Antero-posterior standard deviation (AP); Trunk deviation (°).

**Material and method:** Descriptive observational study on 30 patients admitted to the C.N.C.R.N.C. „Dr. Nicolae Robanescu”, aged between 5-18 years, with neurological disorders and balance disorders, followed during 7 hospitalizations, in an interval of 21 months.

**Results:** Favourable results were recorded from the “Romberg Index” apparatus test between the first and last hospitalization.

During hospitalizations, an improvement of posture and balance was observed as a clear indicator represented by the approach of C.O.P. of physiological values and diminished trunk oscillations, thus making patients more stable and confident.

The children were captivated by the new procedures and applications, including the game, where they could follow and meet various requirements from simple to complex, being motivated by the score displayed on the screen.

**Conclusions:** The implementation of VR devices in addressing balance disorders in the recovery program - has positive effects on stability and balance - and thus prevent the risk of falling.

Virtual reality is very attractive for children because they are motivated by what they see and the recovery program through devices and the virtual world changes the child's perspective to actively participate - where the interaction takes place not only with the physiotherapist but also with the VR environment.

## ID371 Hidden Impact of COVID-19 Pandemic on Children's Health

Andreea Calenic<sup>1</sup>, Mihai Craiu<sup>2</sup>, Silvia-Mirela  
Covacescu<sup>2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>2</sup>„Alessandrescu Rusescu” National Institute of  
Mother's and Child's Health, „Carol Davila” University  
of Medicine and Pharmacy, Bucharest, Romania

**Objective:** We set out to determine the indirect impact of the COVID-19 pandemic on children's well-being. We analyzed how children's diet, screen time, active time, sleep time have changed in the first year of the pandemic. We have also determined the levels of anxiety in the pediatric population and the parent's tendency to avoid pediatric medical assistance during the pandemic.

**Methods:** An online questionnaire for parents was created using Google Forms and distributed via social media platforms. For measuring the anxiety levels that children had experienced during the pandemic, we included a special part addressed only to parents that had children above 5 years old with questions from PROMIS Anxiety Short Form 8a, a measure that enabled us to calculate anxiety scores using HealthMeasures Scoring Service.

**Results:** Overall, 612 responses were included, and 360 anxiety scores were calculated. 19.61% of parents reported that the diet quality improved during the pandemic and 8.99% reported a decrease in quality. 27% of parents reported that sleeping time decreased during the pandemic and 24.67% of children had sleep disturbances. For 80% of children the screen time has increased during the pandemic and physical activity has decreased – only 9.29% of children aged 12 to 18 maintained the same level of psychical activity. 45.1% of parents reported that they avoided pediatric medical consults during the pandemic and 10.46% reported vaccine postponement. 62.23% of children had anxiety scores above the normal range and higher anxiety scores were found in children younger than 12 ( $p=0.027$ ), children who faced technical issues during online school ( $p=0.0071$ ) and in children with at least one sibling ( $p=0.0076$ ).

**Conclusion:** The COVID-19 pandemic impacted both physical and mental health in the pediatric population and may have a potential long-term impact on obesity, depression and anxiety prevalence in the future.

### ID373 Primary Vaginal Squamous Cell Carcinoma in a Premenopausal Patient – Case Report

Maria Olinca<sup>1</sup>, Anca Poteca<sup>1</sup>, Calina Maier<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„ Prof. Dr. Panait Sarbu” Clinical Hospital, Bucharest, Romania

Primary vaginal carcinoma is a rare disease, the vagina being more often the site of metastatic lesions. The etiology of squamous cell carcinoma of the vagina is similar to the cervical one, with high risk HPV infection being the main risk factor.

We report the case of a 45 years old patient that presented in our service for pelvic pain and abnormal bleeding. On pelvic examination, on the anterior vaginal wall, we identified a polypoid lesions, bleeding on touch, with irregular margins. Biopsy of the lesion demonstrated the presence of atypical cells in the vaginal epithelium consistent with high grade intraepithelial lesion (VAIN3), while a PAP smear done at the same time showed rare groups of atypical cells, diagnosed as ASC-H. The patient underwent total hysterectomy with vaginectomy and confirmed the high grade intraepithelial lesion/in situ carcinoma together with small foci of invasion (T1 stage). The histological evaluation of the cervix only identified restricted areas of low grade intraepithelial lesions (LSIL), excluding the possibility of extension from this area.

Whenever there is suspicion of vaginal lesions, these should be confirmed by biopsy, as the histological subtype and stage are relevant for therapy. Primary vaginal squamous cell carcinoma should only be diagnosed in the absence of vulvar or cervical lesions.

### ID375 Necrotizing Fasciitis: Case Series and Literature Review

Razvan Danciu<sup>1</sup>, Cristina N. Marina<sup>1,2</sup>, Laura Raducu<sup>1,2</sup>, Mihai Mehedintu<sup>1</sup>, Cristian R. Jecan<sup>1,2</sup>

<sup>1</sup>Department of Plastic and Reconstructive Surgery, „Prof. Dr. Agrippa Ionescu” Emergency Clinical Hospital, Bucharest, Romania

<sup>2</sup>Department of Plastic and Reconstructive Surgery, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Necrotizing fasciitis (NF) is a rare bacterial infection of the fascia with progression in the soft tissue under the skin. It is a severe disease of sudden onset that spreads rapidly having a paucity of symptoms that include red or purple skin in the affected area, severe pain, fever. The most affected areas are the limbs and perineum.

**Methods:** A review of the literature and evaluation of 4 patients admitted with this condition was performed. Diagnosis, clinical features, location of the infection, type of comorbidities, microbiology results, the treatment applied, and outcomes of patients were retrospectively analyzed.

**Results:** Uncontrolled diabetes mellitus, obesity and high blood pressure were common comorbidities in all patients. All patients presented to the hospital due to non-specific conditions such as: trauma to the lower limb, the presence of a sebaceous cyst and inguinal lymph node biopsy. Despite the correct surgical treatment, these patients developed monomicrobial and polymicrobial infections with prolonged evolution. Clinical features that helped early diagnosis were: blood tests, local examination and low response to broad-spectrum antibiotics. The unfavorable evolution of this condition caused the death of 2 out of 4 patients.

**Conclusions:** Regardless of the presence of risk factors, NF is a condition with a high mortality rate and only an efficient and undelayed treatment may improve the patient's outcome. Surgical focus control requires wide and repeated resections, associated with supportive measures and intravenous antibiotics. Planned reconstructive plastic surgery is usually necessary, but after the infection is eradicated.

## ID379 Resilience in Clinical Care: Recovery Potential of a Geriatric Patient with Hip Fracture and Polypathology. Case Presentation

Andreea-Silvia Marinescu<sup>1</sup>, Razvan Ioan Dumitrescu<sup>1</sup>, Andreea Zamfirescu<sup>2</sup>

<sup>1</sup>Department of Geriatrics and Gerontology, „Sf. Luca” Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Geriatrics and Gerontology, „Sf. Luca” Hospital, Faculty of Nurses and Midwives, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Resilience is the capacity and dynamic process of adaptively overcoming stress and adversity while maintaining psychological and physical functioning. Resilience is especially important as it is diminished with age just as the risk of many stressors is increasing. The aims of this presentation are: translating the dynamical concept of resilience into clinical practice, in order to improve prediction; understanding and management of resilience in the elderly.

**Methods:** 91 year old woman, 2 weeks post hip-fracture surgery (Moore-prosthesis), with history of CHF NYHA IV reduced to NYHA III, recurrent PSVT, moderate neurocognitive-disorder, grade-I calcaneus and buttocks ulcers, immobilized in bed. Physical-examination: BP=140/60 mmHg, HR=70 bpm, SpO<sub>2</sub>=94%; conscious; dyspnea on exertion, bilateral fine-crackles; rhythmic heart – sounds; urinary – incontinence; spatial – disorientation, severe hearing-loss.

**Results:** Electrocardiogram: NSR, HR=60bpm, QRS axis=-20°, LBBB, ST-elevation in V4-V6. Laboratory: Mild iron-deficiency-anemia: Fe=18 ug/dL, HGB=10.10 g/dL; Hypokalemia remitted during hospitalization: K=3.30→3.9 mmol/L; Hypothyroidism-TSH=11.30 uIU/ml; GFR=59 ml/min/1.73. Chest-X-ray: Cardiomegaly; Bilateral pleurisy in small-medium amount; Suggestive aspect of pulmonary-stasis. Native-brain-CT: marked leukoaraiosis; diffuse cerebral-atrophy associated with moderate secondary dilation of the ventricular-system. Pelvic-X-ray: Right-hip prosthesis; Left-hip osteoarthritis. Multidimensional-geriatric-assessment: moderate neurocognitive-disorder: MMSE=14/30p, Clock-drawing-test – couldn't be solved, Reisberg-Scale=5/7p, GDS=12/15p-moderate-severe depression. Nutritional-status: normal weight-BMI=22.03 kg/m<sup>2</sup>, malnutrition-MNA=10.2/30p. Functional-capacity-evaluation: functional impairment, ADL=1/6p, IADL=0/8p. The patient was stable during hospitalization, after rehabilitation she ended up tolerating the sitting position, getting out of bed and taking a few steps with support. Evolution on short-term was favorable (resilience-fig. 1): recovered functional-independency. On the long-term: although cardiovascularly-compensated, due to neurocognitive-disorder, the patient fell (after 4 months) and had a contralateral hip-fracture which was inoperable and led to immobilization.

**Conclusions:** Resilience is a dynamic process. Restoring the resilience of an organ (e.g. bone after frac-

ture) does not necessarily translate in whole-body resilience; in order to do that, we have to improve, when possible, multiple body systems and organs with a proper management of holistic recovery-treatment which can lead to a significant amelioration of the patient's quality of life.

## ID381 Risk Factors of Relapse in Mediastino-Pulmonary Sarcoidosis

Marius Alexandru Cotet<sup>1</sup>, Ionela-Nicoleta Belaconi<sup>1</sup>, Claudia Lucia Toma<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** To investigate possible risk factors of relapse in mediastinopulmonary sarcoidosis.

**Methods:** The medical records of patients diagnosed over the last seven years at the “Marius Nasta” Institute of Pneumology, were retrospectively reviewed. Relapse was defined as clinical, imagistic, or functional worsening, needing treatment, without any other cause. The variables of interest were: demographic data, the smoking status, the radiologic type, pulmonary function tests results and whether the patient was prescribed a standard course of systemic corticosteroids at presentation. The indication for steroid treatment at presentation was formulated by the attending physician according to the current literature consensus, and the problematic cases were debated within the ILD board. The follow-up period was 12 months.

**Results:** Forty-eight newly diagnosed mediastino-pulmonary sarcoidosis patients were divided between the “Relapse Group” (n=10) and the “Control Group” (n=38). Among them, 15 received corticosteroids therapy, 7 (14.58%) of them relapsing in the following 12 months. The univariate analysis results indicate that the systemic immunosuppressive treatment is a risk factor for relapse occurrence (OR = 8.75, 95%CI 1.83 – 41.69, P = 0.006), along with decreased FEV1 (mean difference 13.48, 95%CI 5.01 – 21.95, P = 0.002) and DLCO (%) (mean difference 11.21, 95%CI 0.76 – 21.66, P = 0.03). After adjusting, the multivariate analysis shows that the only significant risk factor is FEV1 (p= 0.03).

**Conclusions:** This study provides useful information for the management of those patients that do not have a clear indication for systemic corticosteroid treatment, the so-called “grey area”. Several studies have demonstrated that treated patients tend to have more relapses. Our results are consistent with this aspect, but show that the standard corticosteroid therapy is not a risk factor for relapse, but a confounding factor. In contrast, the incidence of recurrence correlates with the severity of the disease, reflected by FEV1.

## ID382 Tetanus Evolution in Romania - a Comparative Analysis with Europe, 2010-2019

Fatma Eshed Salman<sup>1,2</sup>, Andreea Marilena Pauna<sup>1,2</sup>, Bianca Georgiana Enciu<sup>1,3</sup>, Maria Dorina Craciun<sup>1,4</sup>, Daniela Pitigoi<sup>1,5</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Institute of Military Medicine, Bucharest, Romania

<sup>3</sup>National Institute for Public Health, Bucharest, Romania

<sup>4</sup>„Grigore Alexandrescu” Emergency Clinical Hospital for Children, Bucharest, Romania

<sup>5</sup>„Prof. Dr. Matei Bals” National Institute for Infectious Diseases, Bucharest, Romania

**Objective:** We aim to describe the tetanus evolution in Romania comparatively with Europe over a period of 10 years (2010-2019).

**Materials:** We performed a retrospective study using data regarding tetanus morbidity, mortality and vaccination collected from national and international websites (National Center for Diseases Surveillance and Control, European Center for Diseases Control, World Health Organization). Data were centralized into an Excel database and a descriptive and comparative analyze was performed. The study period was between 2010-2019.

**Results:** In Romania, during the studied period were recorded 75 tetanus cases, with an average of 8 cases/year (stdev= $\pm 4.5$ ); it represents 7.5% from all reported cases at European level.

84% cases were recorded in people living in rural areas, unvaccinated or incompletely vaccinated.

Sixty-three patients (86.7%) had a severe clinical presentation at admission and 47 have died (case fatality rate/CFR=62.7%).

In European Union/European Economic Area, 1002 cases were recorded between 2010-2019, with an average of 111cases/year (stdev= $\pm 25.1$ ). No available data about mortality between 2010-2013. During 2014-2019, 63 deaths were recorded from 295 cases with known outcome (CFR=21.4%).

DTP-3 vaccination coverage among 1-year-olds in Romania have decreased from 94% in 2010 to 89% in 2019 (with a minimum of 82% in 2017). In Europe, DTP-3 average vaccination coverage was 94%.

**Conclusions:** Tetanus continues to represent a public health issue in Romania, our country recording a low DTP-3 immunization coverage, below the European average and being place on the first five European positions with high number of cases. Also, CFR in Romania is three times higher than the European average.

Our findings underline the need for information campaigns on the importance of vaccination, knowledge of risk factors and early adequate prophylaxis and treatment.

One limitation of this study is the lack of homogeneous data regarding tetanus both in Romania and Europe.

## ID386 Recurrent Bilateral Renal Agenesis

Nadejda Birladeanu<sup>1</sup>, Catalin Herghelegiu<sup>1</sup>, Catalina Micu<sup>1</sup>, Mihaela Radu<sup>1</sup>, Alina Pradatu<sup>1</sup>, Raluca Ioan<sup>1</sup>, Radu Ioan Ursu<sup>1</sup>, Viorica Radoi<sup>2</sup>

<sup>1</sup>National Institute of Mother's and Child's Health, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** Bilateral renal agenesis (RA) is a rare congenital renal tract malformation that describes the absence of kidney and ureters development, subsequent absence of fetal renal function, and anuria, leading to oligohydramnios. This pathologic cascade of events develops Potter's facies, including hypertelorism, epicanthal folds, flattened bridge of the nose, low set ears, and pulmonary hypoplasia secondary to oligohydramnios. It is still considered to be incompatible with postnatal life due to lung underdevelopment.

**Method:** The diagnosis is through direct assessment by ultrasonography and fetal MRI. There are several etiologies of bilateral RA. The genetic evaluation variably includes karyotyping, microarray, targeted gene testing, gene panels, WES testing, depending on the case presentation.

**Case report result:** We present the case of a 24th years old female patient with a recurrent diagnosis of bilateral RA in both pregnancies of female and male fetuses.

In the first pregnancy, oligohydramnios was detected, no visible kidneys and absent urinary bladder filling during ultrasound screenings of the first and second trimester, also confirmed by fetal MRI. In the second pregnancy, during the first-trimester ultrasound screening, the filling of the urinary bladder was not seen, and the kidneys were not clearly distinguishable. It is important to note that these findings can be encountered in most normal first-trimester pregnancies as the fetus is small (<85mm) and image resolution is not great. At the next follow-up, at 18 weeks, oligohydramnios was observed, the filling of the urinary bladder was still absent, and the kidneys were poorly visible.

**Conclusions:** The cause for bilateral RA still represents a challenge, both for the clinicians and the geneticist to unravel the genetic basis, since a better classification requires molecular definition. The goal appears to be a collaborative medical team sharing the same objective and resources.

## ID387 Atypical Limbic Encephalitis – the Impact of Anterograde Amnesia

Horia Iulian Goldstein<sup>1</sup>, Raluca-Simona Gurgu<sup>1</sup>, Paul Miron-Basalic<sup>2</sup>, Cristina Aura Panea<sup>1,3</sup>

<sup>1</sup>Elias Emergency University Hospital, Bucharest, Romania

<sup>2</sup>Coltea Clinical Hospital, Bucharest, Romania

<sup>3</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** To present a rare case of probably paraneoplastic LE (limbic encephalitis), associated with anti-GAD antibodies, with an atypical clinical picture (associated cerebellar signs and eating disorder), still under investigation at this time.

**Method:** We will present all sociodemographic data, clinical picture, paraclinical results and treatment response in a patient with limbic encephalitis, as case report.

**Results:** A 29-year-old female was admitted in our department with seizures, severe short-term memory impairment, an unusual alimentary behavior, nystagmus, ataxia in all limbs and brisk tendon reflexes. Brain magnetic resonance imaging (MRI) revealed bilateral hippocampal lesions. Serial surface electroencephalographic recordings showed slowing over both temporal regions, multifocal interictal epileptiform discharges and frequent electric seizures with focal onset. Patient presented slightly elevated fasting blood glucose levels and high values of CA-125. Cerebrospinal fluid (CSF) analysis demonstrated pleocytosis and we found high titers of anti-glutamic acid decarboxylase (GAD II) antibodies in the serum. Other autoimmune/onconeural antibodies (in serum and/or CSF) are negative (anti-GAD II antibodies in CSF were not tested because the amount of CSF obtained was considered insufficient by laboratory staff). Pelvic MRI showed a left ovarian cyst, with mixed content and peripheral gadolinium enhancement. Treatment included pulse therapy with methylprednisolone, followed by the administration of IgIV (with a mild improvement in short-term memory). Patient is currently being considered for exploratory laparotomy.

**Conclusions:** LE can be associated with ovarian teratoma and anti-NMDA-R antibodies. So far, in our patient we were able to detect a possible ovarian tumor associated with serum anti-GAD II antibodies. Classically, these antibodies are associated with other paraneoplastic syndromes or with diabetes mellitus. Recent literature reports an association with LE, but less than 100 cases were reported till the end of 2020 and even less exhibited other neurological signs.

## ID389 A Rare Cause of Malabsorption – Whipple’s Disease

Monica Elena Panait<sup>1,2</sup>, Vasile Daniel Balaban<sup>1,2</sup>, Tiberiu Anghel<sup>3</sup>, Andrei Buciuman<sup>4</sup>, Florina Vasilescu<sup>2</sup>, Mariana Jinga<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Dr. Carol Davila” Central Military Emergency Hospital, Bucharest, Romania

<sup>3</sup>Muntenia Hospital, Pitesti, Romania

<sup>4</sup>Synevo Hospital, Bucharest, Romania

**Objective:** Malabsorption encompasses a wide clinical spectrum and the workup to define an etiology is sometimes challenging. Whipple’s disease (WD) is a systemic infectious disease caused by the bacterium *Tropheryma whipplei*, which can present as malabsorption syndrome. We herein present the case of a female diagnosed with extensive Whipple’s disease, involving the small bowel up to the terminal ileum.

**Methods:** We present the case of a 51-year-old female, with unremarkable past medical history, who underwent a computed tomography scan for involuntary weight loss and in whom thickening of the rectosigmoid junction and ascites were noted. Laboratory workup revealed mild normocytic anemia, hypoalbuminemia and marked inflammatory syndrome. A suspicion of colonic malignancy was set and colonoscopy was recommended. The colonoscopy examination did not reveal any changes in the rectosigmoid area, but whitish villi were seen on intubation of the terminal ileum, which were biopsy sampled. The histopathology report revealed foamy macrophages, with coarse cytoplasm staining positive with periodic acid Schiff (PAS) stain. Further, an upper gastrointestinal endoscopy was done, which showed the same typical appearance of whitish villi, also with PAS positive macrophages, suggestive of WD. Polymerase chain reaction (PCR) for *Tropheryma whippeli* came out positive, confirming WD. The patient was started on intravenous antibiotics and then continued with oral sulfamethoxazole/trimeoprim. There was a slow favorable evolution in the first months after starting antibiotic therapy, with need for several paracentesis sessions and intensive nutritional support.

**Result:** While WD usually involves the proximal small bowel, we herein report a case of extensive disease affecting the bowel up to the terminal ileum. Another particularity of our case is the profound hypoalbuminemia with recurrent ascites, which required intensive albumin supplementation and nutritional support.

**Conclusions:** In conclusion, we present the rare case of an extensive WD, involving the terminal ileum, with severe malabsorption syndrome.

## ID390 Management of Mineralocorticoid Replacement During Infancy for Salt Wasting Congenital Adrenal Hyperplasia Due to 21-Hydroxylase Deficiency

Veronica Zaharia<sup>1</sup>, Bogdan M. Pascu<sup>1</sup>

<sup>1</sup>Department of Pediatric Endocrinology,  
„Alessandrescu-Rusescu” National Institute for  
Mother's and Child's Health, Bucharest, Romania

**Introduction:** Congenital adrenal hyperplasia (CAH) refers to a group of autosomal-recessive conditions characterized by disordered cortisol synthesis, caused by 21-hydroxylase deficiency.

**Case report:** We report a case of a newborn male who in the first day of life presented an episode of vomiting and poor feeding. Blood test results were within the normal limits. Because the patient was born in a private maternity, a screening for CAH is done. The screening result was positive, and a second blood test indicated high levels of 17-OH progesterone, mild hyponatremia and hyperkalemia. Diagnosis of CAH was confirmed by genetic testing, which detected mutations P30L, L2splice, Del 8 bp E3 and L172N in the CYP21A2 gene, in a compound heterozygous state.

Initial treatment only with Hydrocortisone for hyoelectrolytic balancing as well as androgen suppression was not effective due to low mineralocorticoid effect of HC at small doses. As such, at the presentation in our clinic, Fludrocortisone and sodium chloride were added to the treatment plan.

The challenge in our case persists in finding the appropriate FC dose to avoid life-threatening salt-wasting crises and avoid FC overdosage to prevent arterial hypertension. Periodical monitoring of blood pressure is highly important, amongst the measurement of electrolytes levels and plasma renin concentration. Current recommendations give an interval of 2-3 months for these procedures. During the follow-up, high blood pressure was found with a normal electrolytes balance. In consequence, a reduction in the FC dose was necessary, in order to keep blood pressure within limits. Furthermore, measurements of plasma renin concentration, which is also an indicator for assessing the FC dose, revealed higher than normal concentrations. This implied that the FC dose had to be increased, unless hypertensive.

**Discussion:** Neonatal screening for CAH can identify children before salt wasting crises develop, reducing mortality from this condition.

It is common practice that only electrolytes levels are measured for assessing CAH treatment. However, particular emphasis should also be placed on blood pressure monitoring as well as plasma renin concentration levels for an optimal treatment plan.

## ID396 Therapeutic Management of Extramammary Paget Disease- a Case Report

Oana Alexandra Rosu<sup>1</sup>, Stefania Cristina Radulescu<sup>1</sup>, Cornelia Nitipir<sup>1</sup>, Mihaela Cristina Olaru<sup>1</sup>, Ruxandra Florentina Ionescu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Extramammary Paget disease (EMPD) is in most cases a rare cutaneous adenocarcinoma that usually originates in the epidermis, shows glandular differentiation, and is treated by wide local excision depending on the disease extent. Paget's disease of the vulva (PDV), accounts for about 1% of all the neoplasms of the vulva. Approximately 10–30% of patients with PDV have associated invasive adenocarcinomas. In these patients, PDV is mostly aggressive with higher recurrence rates.

**Methods:** Patient, aged 40, with no medical history, is diagnosed with localized PDV after a local surgery with clear oncological margins. The histopathological examination of the biopsy that was taken during surgery revealed the following immunohistochemically tumor profile: HER2 +, ER-, PGR-, Ki 67 25%. The post-operative follow-up investigations strongly suggested that the disease was extended through the lymph nodes, so the patient underwent a surgical lymphadenectomy, where the biopsy results were consistent with EMPD: ER 75%, PGR 10%, HER2-, Ki67 25%. After progression by M1 LYM (lymph node metastasis), she started treatment with antiestrogenic therapy and GnRh agonist and after her second progression, this time by M1 OSS (bone metastasis), we decided to initiate CDK 4/6 inhibitor, aromatase inhibitors, GnRh agonist and bisphosphonates which continues to the present day. She also underwent palliative IMRT (intensity modulated radiotherapy).

**Results:** The latest tumor evolution is histopathologically confirmed as metastatic hepatic lesions from PDV (ER10 %, HER 2 -). Further investigations like PET-CT and NGS (next generation sequencing) testing from the hepatic biopsy material will indicate the course of treatment in the future.

**Conclusions:** This case report highlights the challenges in treating metastatic PDV, a rare location that is currently being treated like a metastatic stage IV breast cancer, according to the latest NCCN guidelines.

## ID401 PROCare4Life: Results of the Romanian Study on Users' Needs and Requirements

Laura Dumitrescu<sup>1,2</sup>, Liviu Cozma<sup>1,2</sup>, Athena Ribigan<sup>1,3</sup>, Raluca Badea<sup>1,3</sup>, Florina Antochi<sup>1,3</sup>, Bogdan Ovidiu Popescu<sup>1,2,4</sup>

<sup>1</sup>Division of Neurology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Neurology, Colentina Clinical Hospital, Bucharest, Romania

<sup>3</sup>Department of Neurology, Emergency University Hospital, Bucharest, Romania

<sup>4</sup>„Victor Babes” National Institute of Pathology, Bucharest, Romania

**Objective:** PROCare4Life is a Horizon 2020 research and innovation project aiming to develop an integrated ICT e-health ecosystem for the daily care of senior people with Parkinson's disease, Alzheimer's disease and other chronic conditions. Colentina Division of Neurology at „Carol Davila” University of Medicine and Pharmacy and the Emergency University Hospital from Bucharest are among the 14 European partners implementing the project. The overall objective of the project is to develop and test (within 3 large-scale pilots) a mobile phone app and an online platform that will allow automatic input of health-related data from different wearable and non-wearable devices, as well as direct input from patients and caregivers. This will improve communication between patients, caregivers, and care professionals, facilitating disease follow-up, timely personalized recommendations, and support for health promoting habits.

**Methods:** As the first step of research, the consortium deployed a study to better understand the needs and requirements of patients, caregivers, and other future users of the PROCare4Life solution, in different sociocultural environments of the European Union. The study consisted of an online survey for patients and caregivers and online interviews of relevant stakeholders.

**Results:** A total of 27 patients and 23 caregivers from Romania responded to the online survey. Additionally, two academia members and one caregiver were interviewed. The study brought useful insights concerning the needs and requirements that should be covered by PROCare4Life. Most patients and caregivers answered that they were willing to use the ICT solution that PROCare4Life is developing and considered it may help reduce the negative impact of the disease.

**Conclusion:** The PROCare4Life solution is acceptable to patients and caregivers and may help increase their quality of life and the efficacy of health and social care systems. Development and testing are currently ongoing, considering the requirements and needs of the future users.

## ID402 Ageing Well in the Digital World

Luiza Spiru<sup>1,2</sup>, Mircea Marzan<sup>1,2</sup>, Cosmina Niculescu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Ana Aslan International” Foundation, Bucharest, Romania

Nowadays, the development of innovative technology and the innovative use of existing technology helps people live happier, more independent lives for as long as possible.

One important aim of these developments is to implement Smart Healthy Age-Friendly Environments across Europe, fostering happier and healthier people in all communities. Smart, adaptable, and inclusive solutions can help improve and support independent life throughout the course of life, regardless of age, gender, disabilities, cultural differences, and personal choices. As a result, the SHAFE concept was created in 2017, it took shape and became a solid movement nowadays. In the Open call for good practices, success stories and lessons learned by all stakeholders in the implementation of the Sustainable Development Goals and the 2030 Agenda launched by the United Nations, SHAFE was one of the few recognized good practices from all over the world, where more than 700 submissions were reviewed. To expand the awareness and develop the SHAFE concept around Europe a COST Action (Net4Age-Friendly: CA19136 - International Interdisciplinary Network on Smart Healthy Age-friendly Environments) was launched in 2020 with the main aim of developing an international ecosystem based on a network of researchers and stakeholders that enables the practice and deployment of Smart Healthy Age-Friendly Environments (SHAFE). Romania is one of the 38 participating countries and UMF Carol Davila is a member of the Romanian Management Committee.

Other very important aspects in developing these kinds of technologies for the aging population are related to the ethical, legal, social, and privacy issues associated to audio- and video-based monitoring in private spaces. In this respect another important COST Action (GoodBrother: CA19121 - Network on Privacy-Aware Audio- and Video-Based Applications for Active and Assisted Living) was launched also in 2020, with the aim of designing privacy-aware solutions to support older, impaired, and frail people in their daily life (AAL) as well as to increase the awareness on the privacy aspects mentioned earlier. GoodBrother will offset the “Big Brother” sense of continuous monitoring by increasing user acceptance, exploiting these new solutions, and improving market reach. Romania, is one of the 37 participating countries and UMF Carol Davila and CleH are members of the Romanian network.

Innovative technologies are being developed and evaluated also for the use in better detection of cognitive impairments, such as the RADAR-AD project: Remote Assessment of Disease and Relapse-Alzheimer's Disease. The project has been set up by the Amsterdam UMC in the Netherlands and is carried out by researchers from 13 clinical centers across Europe. The overall aim of this European project is to assess the use of Remote Monitoring Technology (RMT) in detection

of impairments in functional components of tasks of daily living that occur below the threshold of clinical scale detection or disability questionnaires in patients in various stages of Alzheimer Disease. In Romania, the study is coordinated by Professor Luiza Spiru, the Excellence Clinic of Geriatrics, Gerontology and Old Age Psychiatry, „Carol Davila” University of Medicine and Pharmacy.

**Acknowledgement:** The European Cooperation in Science and Technology (COST) is an EU-funded, intergovernmental framework with currently 38 Members and 1 Cooperating Member.

RADAR-AD receives funding from the Innovative Medicines Initiative 2 Joint Undertaking under grant agreement No. 806999.

## **ID174 Comparative Analysis of SARS-CoV-2 Antibody Transplacental Transfer Post Infection and Post-Vaccination in Pregnancy**

Madalina Iordache<sup>1</sup>, Diana Secara<sup>1</sup>,  
Natalia Turcan<sup>2</sup>, Monica Mihaela Cirstoiu<sup>1</sup>

<sup>1</sup>Department of Obstetrics Gynecology, Emergency University Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Obstetrics Gynecology, Emergency University Hospital, Bucharest, Romania

**Introduction:** The vertical transmission of specific antibodies is the protection key of newborns against various pathogens during the first period of life. As the SARS-CoV-2 pandemic has reached unimaginable proportions, a significant attention was paid to vertical transmission of protective antibodies. Even though numerous studies published their results, a final conclusion and specific recommendations were not drawn.

In this context, we aimed to analyze the SARS-CoV-2 antibody titer of pregnant women who either had COVID-19 during pregnancy or were completely vaccinated during this period and corroborate the obtained values to those of their newborns.

**Material and method:** In our study 38 women and their newborns were included. Each woman was tested SARS-CoV-2 PCR negative at presentation, had history of SARS-CoV-2 infection during pregnancy, gave birth to a healthy newborn and was tested immediately postpartum for IgM and IgG SARS-CoV-2 antibodies together with her baby.

**Results:** Our study group included only four (10.5 %) vaccinated patients. The protective IgG antibody titer was present in seven (22%) patients with history of SARS-CoV-2 infection and only five newborns had a protective IgG antibody titer. The maximum maternal value of IgG SARS-CoV-2 antibodies after disease was 3.46. On the other hand, all vaccinated during pregnancy women had a protective level of antibodies at the moment of testing and also their newborns had levels of IgG antibodies similar to their mothers. The maximal titer (45 and 28) of maternal and fetal antibodies was found in two patients vaccinated in the second trimester.

**Conclusion:** We consider our results as being promising, with data suggesting an effective maternal to fetal transfer of antibodies in vaccinated pregnant women especially if the vaccination took place in the second trimester.

## **ID176 The Management of Adolescent Pregnancies in Emergency University Hospital, Bucharest**

Ana Veronica Uzunov<sup>1</sup>, Diana Secara<sup>2,3</sup>,  
Monica Mihaela Cirstoiu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Obstetrics and Gynaecology, Emergency University Hospital, Bucharest, Romania

**Aim:** In this study we analyzed the pregnancies amongst adolescents

**Materials and Methods:** The paper includes a retrospective study on a group of 991 patients aged 12-19 years analyzed between 2014 and 2020 who delivered in the Department of Obstetrics and Gynecology of University Emergency Hospital in Bucharest.

**Results:** Regarding the method of delivery, in the period 1<sup>st</sup> January 2014 and 31<sup>st</sup> December 2018 we observed a higher number of caesarean section (52.7%) while between 2019 and 2020 the rate of caesarean section was lower (37.7%). It is important to notice the indication of caesarean section. In the first years of the study the most frequent indication was cephalo-pelvic disproportion (23.4%) while in 2020 the uterine scar after caesarean section was the first indication for caesarean section (48%). The neonatal outcome was evaluated by the weight of the fetuses and the Apgar score at 1 min. The weight of fetuses from adolescent mothers was between 3.000 and 3.499 grams while the prevalent Apgar score was 9. In 2020 we studied the effects of SARS-CoV-2 infection above pregnant adolescent and we found out that not the mothers neither the newborns needed any specific therapy, because in all cases the disease was asymptomatic. All these years the number of pregnant adolescents was almost constant maybe of the low sexual education.

**Conclusion:** Because of the ascendant number of adolescents getting pregnant and the materno-fetal complications in this group of age, it is important to create specific protocols.

## ID178 Maternal-Fetal Outcomes in Pregnancy Associated with Renal Failure

Daniela-Catalina Meca<sup>1</sup>, Sorin-Liviu Vasilescu<sup>1</sup>, Monica-Mihaela Cirstoiu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Obstetrics and Gynecology, Emergency University Hospital, Bucharest, Romania

**Objectives:** Diagnosis and therapeutic management of renal failure in pregnancy remain a challenge due to overlapping physiological changes. The risk of adverse pregnancy outcomes is increased in women with renal chronic disease, including preeclampsia, fetal growth restriction, preterm delivery. Also, acute renal failure associates a significant maternal morbidity and mortality in post-partum period. The purpose of this study is to assess the incidence, the etiology of renal acute failure and maternal outcome and to develop a therapeutic management to improve maternal-fetal outcomes in chronic renal failure.

**Methods:** A retrospective observational study was conducted on a group of 41 cases diagnosed during a period of 4 years, within the University Emergency Hospital in Bucharest.

**Results:** The chronic renal failure was diagnosed in 12 cases, having as etiology systemic lupus erythematosus (25%), polycystic kidney (25%), tubular acidosis (8.33%), membranous glomerulonephritis (8.33%), chronic pyelonephritis with renal transplant (16.66%). On the other hand, the etiology of acute renal failure was represented by maternal sepsis (27.5%), abruptio placentae (10.3%), HELLP syndrome (6.89%), eclampsia/severe preeclampsia (41.37%), hemorrhagic shock (13.79%). The rate of cesarean section was 95%. Most cases resulted in premature births, with an average gestational of 31 weeks. Also, the average fetal weight and the 1-minute Apgar index was significantly increased in the group of patients with chronic renal failure (W=1992 g vs 1526 g, respective AI=7 vs 3). Fetal growth restriction was recorded 3 times more frequently in the group of patients with acute renal failure. Fetal loss was reported in 17.1% cases of acute renal failure. Also, maternal mortality was 22.5%, most cases being associated with maternal sepsis and hemorrhagic shock.

**Conclusion:** Maternal-fetal prognosis can be improved by rapid recognition of risk factors and treatment of underlying pathology, given the increased mortality and morbidity associated with renal failure.

## ID200 How Important is Retroperitoneal Tumor Volume for the Surgical Resectability and the Prognostic of the Patients?

Angela Madalina Lazar<sup>1</sup>, Claudiu Daha<sup>1</sup>, Bogdan Mastalier<sup>1</sup>, Ciprian Cirimbei<sup>1</sup>, Sanziana Octavia Ionescu<sup>1</sup>, Eugen Bratucu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

There are authors that considered tumor dimension, either as a continuous or as a dichotomic variable as being an important independent prognostic factor for the patients with retroperitoneal neoplasias. Such a factor was associated with lower resectability rates, higher rates of distant metastasis and an overall worse prognosis for the operated on patients. However, such findings were confuted by other studies. In this context, the aim of our study was to investigate the significance of the tumor-related characteristics for the overall survival of retroperitoneal tumor patients.

**Patients and methods:** We conducted a study on a cohort of 133 operated on patients with primitive and secondary retroperitoneal tumors that were followed-up postoperatively extensively. A thorough statistical analysis was performed in order to test the association between various tumor-related characteristics (dimension, histopathologic type) and the surgical resectability, recurrence and postoperative distant metastasis rates, as well as their prognostic significance in the survival analysis.

**Results:** 69.6% of the operated on cases of primitive retroperitoneal tumors had a more than 10 cm diameter. There was no significant association between a higher tumor dimension and lower resectability rates or higher risk of perioperative complications, recurrences or distant metastasis. A larger tumor volume did not validate as a significant independent prognostic factor in the survival analysis.

**Conclusions:** Retroperitoneal tumors dimension can be impressive and discouraging for the surgeon. However, most of the studies, including ours, did not find tumor volume as being a limiting factor for the surgical resectability, nor was it associated to a higher risk of operative complications. Therefore, a larger tumor volume should not be regarded as a limiting factor for a complete tumor resection. Instead, 3D- CT images reconstruction should be performed and an accurate preoperative surgical strategy should be considered in order to achieve complete resections even for gigantic tumors.

## ID201 Intra-tumor Necrosis Significance for the Treatment of Retroperitoneal Tumor Patients

Angela Madalina Lazar<sup>1</sup>, Claudiu Daha<sup>1</sup>, Bogdan Mastalier<sup>1</sup>, Sanziana Octavia Ionescu<sup>1</sup>, Ciprian Cirimbei<sup>1</sup>, Eugen Bratucu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

Retroperitoneal neoplasias are rare and aggressive tumors that continue to escape our understanding. Besides radical surgery, no other form of effective treatment could be clearly found for the management of retroperitoneal tumor patients. Therefore, the understanding of the tumor biology has gained a considerable attention. Several tumor characteristics have been considered by disparate studies of being of prognostic importance, but no consensus has been reached in this regard. The aim of the present study was to investigate whether the presence of tumor necrosis holds any level of significance for the patients with retroperitoneal tumors.

**Patients and methods:** A group of 133 operated on patients with primary and secondary retroperitoneal tumors was included in an extensive retrospective study. Patient-, tumor-, diagnosis and therapy-related factors were collected in order to discover significant prognostic factors for the operated on patients. Information on the presence of the necrotic area was obtained from the preoperative imaging data and from the macroscopic and microscopic surgical specimen analysis.

**Results:** Malignant retroperitoneal tumors were characterized by important intratumor heterogeneity, with the presence of necrotic areas in 21.4% of the operated-on cases. The presence of intra-tumor necrotic areas did not prove to be an independent significant predictor for the occurrence of recurrences and metastases, nor the overall survival of the patients. However, the presence of intra-tumor necrotic areas was significantly associated to a better response to adjuvant therapies.

**Conclusions:** Although some authors have suggested an association between the presence of intra-tumor necrotic areas and more aggressive, de-differentiated retroperitoneal neoplasias that have higher recurrence and distant metastasis rates, the current study did not validate such prognostic factors. However, the finding that such patients, with intratumor necrotic areas respond better to adjuvant therapies, having higher survival rates than their counterpart is of particular importance for improved therapeutic management guidelines.

## ID202 Radiation Exposure and Primitive Retroperitoneal Tumors

Angela Madalina Lazar<sup>1</sup>, Claudiu Daha<sup>1</sup>, Bogdan Mastalier<sup>1</sup>, Ciprian Cirimbei<sup>1</sup>, Sanziana Octavia Ionescu<sup>1</sup>, Eugen Bratucu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

Currently, there are no clear, overall acknowledged risk factors for the development of the primitive retroperitoneal tumors. Only a few studies name risk factors such as ionizing radiation exposure or diabetes mellitus for the occurrence of liposarcomas. Even more, radiation exposure appears to be associated to more aggressive, dedifferentiated tumors and an overall poor prognosis for the patients. In the proposed study we aimed to investigate whether preoperative radiation exposure has indeed a prognostic significance for the operated on retroperitoneal tumor patients.

**Patients and methods:** We conducted an extensive retrospective analysis on a cohort of 64 patients with primitive retroperitoneal tumors that have been operated on in the Surgical Clinic over a period of 15 years. We collected data on the patient antecedents, including exposure to radiation as a part of previous therapy for other cancer. We analysed the putative association of the radiation exposure variable to more aggressive forms of cancers and its significance for the prognosis of the patients.

**Results:** 26.8% of the operated on patients with retroperitoneal tumors has a history of radiotherapy for previous cancers. However, previous exposure to radiation was not found to be a significant prognostic factor in the overall survival analysis, nor was it associated to higher local-regional recurrence or distant metastasis rates. Nonetheless, previous patient radiotherapy was significantly associated to the development of sarcomas and not to other histopathologic subtypes. Also, it was more frequently associated to more aggressive neoplasias that presented vascular involvement.

**Conclusions:** Previous radiation exposure was not found to be a prognostic factor for the retroperitoneal tumor patients included in this study. However, the association of previous patient radiotherapy for other cancers with the development of sarcomas and a more frequent tumor vascular involvement should be further studied, for prevention strategies and an improved therapeutic protocol of such patients.

## ID203 Retroperitoneal Tumor Patient Characteristics and their Prognostic Significance

Angela Madalina Lazar<sup>1</sup>, Claudiu Dahan<sup>1</sup>,  
Bogdan Mastalier<sup>1</sup>, Sanziana Octavia Ionescu<sup>1</sup>,  
Ciprian Cirimbei<sup>1</sup>, Eugen Bratucu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

The only overall acknowledged positive prognostic factor for the retroperitoneal tumors patients remains the surgical radicalness. Some authors have also considered several patient characteristics such as age, sex and comorbidities as being important predictors for the patient survival and have even included them into sarcoma nomograms. However, such factors have not been validated by all the studies. In this context, the aim of our study was to analyze whether the patient characteristics can be predictors for the overall survival of the retroperitoneal tumor patients.

**Patients and methods:** The current retrospective study was performed on a group of 64 patients with primitive retroperitoneal tumors, operated on over a period of 15 years. Several putative predictors were included into an extensive survival analysis, including patient-related factors, such as the age, sex, patient comorbidities and blood group.

**Results:** The most important positive prognostic factor for the operated on patients validated from the survival analysis was the surgical radicalness. The patient age and comorbidities did not prove to be significant prognostic factors in the survival analysis. Although the operated on female patients had a higher overall survival than their male counterparts in the descriptive statistics, the sex variable did not validate as a significant predictor in the survival analysis. The O Rh+ and B Rh- blood groups associated a significantly lower overall survival than the other blood groups.

**Conclusions:** A thorough knowledge of the important predictors of retroperitoneal tumor patients' survival is essential for an improved therapeutic strategy and long-term follow-up. Some studies have advanced the idea that male and aged patients have a lower survival than their female, younger counterparts. However, as several other studies did not confirm such a finding, an independent therapeutic decision based on such factors, including hormone therapy, should be avoided until a consensus is reached in this regard.

## ID207 Association between Preterm Birth and Ureaplasma SPP/Mycoplasma SPP Infection

Andreea Elena Constantin<sup>1</sup>,  
Monica Mihaela Cirstoiu<sup>1</sup>

<sup>1</sup>Department of Obstetrics and Gynecology, Emergency University Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Aim:** Preterm birth is considered the main cause of perinatal mortality and morbidity worldwide. Ascending genital tract infections are the leading etiological factor for premature deliveries.

The aim of our study was to demonstrate the relationship between preterm birth and the infection with *Mycoplasma* spp and *Ureaplasma* spp.

**Materials and Methods:** An ongoing prospective cohort study is conducted in the Department of Obstetrics Gynecology at Bucharest Emergency University Hospital. The study design and protocol were approved by the local ethics committee. Informed consent was obtained from all participants.

We collect cervical swab from pregnant women between 25-36 weeks gestation admitted in our department for uterine contractions, abdominal pain, vaginal bleeding, suspicion of premature membrane ruptures or cervical length shortening on transvaginal ultrasound (< 25mm).

All samples are tested for the presence of *M. hominis*, *M. genitalium*, *U. urealyticum*, *U. Parvum* using a multiplex-tandem polymerase chain reaction (MT-PCR) for the amplification of targeted DNA and RNA.

**Results:** Until now a total of 34 pregnant women were included in our study. 15 patients were found to be positive for *U. parvum* (73,3%), coinfecting *U. parvum* and *U. urealyticum* (6,66%), *M. hominis* (6,66%), *U. urealyticum* (13,33%). Sixteen (47,05%) women experienced preterm birth at < 37 weeks of gestation. In preterm birth patients group *U. parvum* was detected in 37,5% of cases (5 cases with *U. parvum*, 1 case with coinfection *U. parvum* and *U. urealyticum*), but an important percent of 62,5% were tested negative.

**Conclusion:** Although our cohort was relatively small for analysis of the role of *Mycoplasma* spp. and *Ureaplasma* spp in preterm birth, partial results demonstrate that infection with *U. parvum* could be identified as one of the most important etiological factor. Further results of the ongoing study will identify other methods that are evaluated in order to obtain accurate estimates of the prevalence of these infections.

## ID 208 Management of Subclinical Breast Lesions

Catalin Gabriel Herghelegiu<sup>1,2</sup>, Elena Theodora Giubegeanu<sup>1</sup>, Simona Alina Dascalu<sup>3</sup>, Bogdan Staicu<sup>3</sup>, Ana Elena Martiniuc<sup>1</sup>, Alina Mihaela Calin<sup>4</sup>

<sup>1</sup>„Alessandrescu Rusescu” INSMC, Bucharest, Romania

<sup>2</sup>Department of Obstetrics and Gynecology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Sanador Clinical Hospital, Bucharest, Romania

<sup>4</sup>Department of Obstetrics and Gynecology, „Dunarea de Jos” University of Medicine and Pharmacy, Galati, Romania

**Objective:** We have conducted a review about the management of subclinical breast lesions that might be malignant (BIRADS 4-5). The biggest problem in managing these lesions is establishing a diagnostic and excluding malignancy. We set out to present the most common ways to approach these lesions

**Methods:** We conducted a review of literature, including articles that describe the management of subclinical breast lesions. We took into consideration only articles that had a high number of cases such that the presented protocols are validated and currently in use.

**Results:** As mentioned, the biggest challenge encountered in managing subclinical breast lesions is obtaining a histological diagnosis. There are two main diagnostic methods: punch biopsy and excisional biopsy, each with advantages and disadvantages.

Punch biopsy must be performed under image guidance and has two main advantages: it is minimal invasive and it does not need general anesthesia. The disadvantage is that the smaller the lesion is, the more difficult the procedure becomes, thus in the case of subclinical lesions the need to repeat the puncture reaches up to 18%. In conclusion the chances of false negative results are inversely proportional with the lesion size.

Excisional biopsy represents the gold standard for diagnosing subclinical breast lesions. The most important step is the localization of the lesion as this assures that the correct tissue is excised. There are two common methods of localization: hook wire localization and radio guided occult lesion localization. Excisional biopsy has the disadvantage of being an invasive diagnostic technique but it has the highest accuracy and allows a more detailed histopathological evaluation.

**Conclusion:** Both punch biopsy and excisional biopsy have advantages and disadvantages, depending on the experience of the physician, one method or the other can be used in managing and diagnosing subclinical breast lesions.

## ID210 Treatment of Esophageal Cancer in the Era of Minimally Invasive Surgery

Silviu Constantinoiu<sup>1</sup>, Florin Achim<sup>1</sup>, Adrian Constantin<sup>1</sup>, Rodica Birla<sup>1</sup>, Petre Hoara<sup>1</sup>, Mircea Gheorghe<sup>1</sup>, Dragos Predescu<sup>1</sup>

<sup>1</sup>Clinic of General and Esophageal Surgery, Center of Excellence in Esophageal Surgery, „Sf. Maria” Clinical Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

Esophageal cancer is an aggressive malignancy with an increasing incidence and an unfavorable prognosis. The treatment of esophageal cancer has become more effective nowadays through the multidisciplinary approach and the creation of centers of excellence with a large volume of esophageal pathology. Advances in staging, surgical technology, neoadjuvant therapy, and perioperative care have reduced morbidity and mortality. The current basic principle of curative treatment for localized disease is surgery, associated with neoadjuvant chemoradiotherapy for locally advanced stages. To reduce postoperative morbidity, minimally invasive surgical techniques and surgical techniques were introduced 29 years ago in the therapeutic arsenal of esophageal cancer. However, there is controversy about the use of the minimally invasive approach in practice because it requires a demanding and difficult to access technical basis, a laborious surgical technique and a long learning curve. The use of minimally invasive surgical techniques in the treatment of thoracic esophageal cancer, however, had a significant impact on post-esophagectomy morbidity and mortality.

## ID231 Local Anesthesia in Non-Melanocytic Skin Cancer – Our Experience

Vlad-Petre Atanasescu<sup>1,2</sup>, Andrei-Ludovic Porosnicu<sup>1,2</sup>, Ioana Ghiurco<sup>1,2</sup>, Stefania-Mihaela Riza<sup>1,2</sup>, Ioana Dumitrescu<sup>2</sup>, Ruxandra Diana Sinescu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Plastic Surgery and Reconstructive Microsurgery, Elias Emergency University Hospital, Bucharest, Romania

**Introduction:** According to World Health Organization (WHO), the incidence of Squamous cell carcinoma (S.C.C) and Basal cell carcinoma (B.C.C) is 2 to 3 million new cases per year. Exposure to UV radiation is the main cause of skin cancer, and the carcinogenic effect is directly linked to cumulative exposure

The surgical treatment of skin cancer must respect with priority the curative, functional and aesthetic principles. The use of local anesthesia in oncologic skin surgery raised questions about the possibility of dissemination of the tumor cells in the blood stream. Studies show that by blocking the voltage gated sodium channels found in tumoral cells, local anesthetics lower the mobility and invasivity at a vascular level preventing local recurrence as well as tumoral vascular dissemination.

**Objective:** Currently, most non-melanocytic skin cancer patients from our department are operated under local anesthesia. We aim to show some reconstructive cases that we deem interesting.

In our daily practice we use a combination of 50 ml physiological serum, adrenaline 1/100.000, 50 ml lidocaine 1% and 5 ml of Sodium Bicarbonate which has the following beneficial effects: it can be used for large areas without the risk of exceeding the maximum dosage of lidocaine admissible, it generates minimum discomfort for the patient, it shortens the operating time due to the fact that less hemostasis is needed, it decreases the need of analgesic medication because of the cumulative action of the substances used that lengthen the analgesic effect up to 6 hours.

**Conclusion:** The use of local anesthesia not only improves the operative time, but also lowers the risks that come with other types of anesthesia. All these beneficial effects come together without having to sacrifice the curative, functional or aesthetic outcome.

## ID233 Theoretical and Applied Base for Plasma Derived Hernia Mesh Augmentation

Valentin Popescu<sup>1</sup>, Bogdan Mastalier<sup>1</sup>, Traian Patrascu<sup>2</sup>

<sup>1</sup>Clinic of General Surgery, Colentina Clinical Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Prof. I. Juvara” Clinic of General Surgery, „Dr. I. Cantacuzino” Clinical Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** The project aimed a way to ensure a more physiological integration of the classical polypropylene hernia meshes used to repair abdominal wall defects. As a result of a better scaring and integration process we challenge a decreased recovery time for our surgical patients with abdominal hernias. Our multidisciplinary team's effort was focused on analysing the natural polymerisation processes involved in the healing process and creating a fibroid tissue upon a polypropylene mesh (PP-mesh) scaffold in a faster rate than in common “in vivo” conditions, yet using natural autologous materials in a well regulated environment.

**Method:** For developing our strategy we reviewed the literature in which blood based autologous tissue scaffolds were used (such as Platelet-rich plasma (PRP), Platelet-rich fibrin (PRF), Fibrin glue, etc) in our attempt to envelop the polypropylene mesh in a fibroid matrix. The problem with standard implanted meshes used for surgical hernia repair, is that the body may reject or cover only portions of the mesh.

**Results:** The polypropylene mesh can be either coated by a PRP dry extract, or by covering it with fresh PRP. The best results were obtained by suturing PRF on the mesh surface, which serves as a thicker scaffold layer. The advantage to use PRF rather than PRP is volumetric filling. To obtain an even distribution of PRP, we need the aid of bioengineers to attach the autologous material to the polypropylene mesh on a process that is expensive.

**Conclusion:** The use of PRF and PRP is a very good augmentation aiding the surgical outcome of hernia repair. The fact that we add an autologous scaffold on the implant has no extra medical risk. Furthermore we need more clinical data from our groups of patients treated with PRP and PRF.

## ID234 Experience with Non-Melanoma Skin Tumors: Diagnostic Strategies, Surgical Treatment and Reconstructive Techniques

Alexandra Ciotei<sup>1</sup>, Vlad Carbutaru<sup>1</sup>,  
Alexandru Adrian<sup>1,2</sup>, Ana-Maria Oproiu<sup>1,2</sup>

<sup>1</sup>Emergency University Hospital, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Overview:** Malignant tumors represent the major cause of facial reconstruction. The face is a common area for the development of skin cancers given its frequent exposure to ultraviolet radiation from the sun, which is the main cause of basal cell carcinoma and squamous cell carcinoma. This paper offers a review of the common facial lesions and their management based on a relevant bibliography with the focus on reconstruction techniques.

**Objective:** our aim is to analyze the various modalities of reconstruction after tumor excision and their advantages and disadvantages.

**Material and methods:** A series of cases with facial carcinoma from our clinic from the previous year were reviewed. The analysis included the size of the cranio-facial tumors, the reconstruction techniques used and functional and esthetic outcomes.

**Results:** A large and full-thickness excision of the tumors were performed. The reconstructive technique has been personalized to each patient. All patients had good functional and cosmetic outcomes. In our experience, local flaps or free grafts give the best results for small/medium defects and are the first choice for facial reconstruction.

**Conclusion:** Facial skin tumors is among the most common pathology. Following tumor excision, facial reconstruction is frequently challenging, yet many techniques are available for restoring anatomical structures. The reconstructive strategies should be adapted depending on defect size, depth, location and involved structures.

## ID252 Plasma Derived Products in Chronic Wound Healing on COVID Patient – Case Study

Valentin Popescu<sup>1</sup>, Dan Andras<sup>1</sup>,  
Catalina Ceaulescu<sup>1</sup>, Cristian Botezatu<sup>1</sup>,  
Bogdan Mastalier<sup>1</sup>

<sup>1</sup>Clinic of General Surgery, Colentina Clinical Hospital,  
„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

**Objective:** To obtain a fast and efficient therapy for chronic wounds that minimizes the hospitalization period with superior results compared to standard treatment care used at this moment, which can boost the regeneration mechanisms.

**Method:** We developed a secure protocol circuit for infected blood sampling and plasma separation techniques. Because of the need for limited time exposure at the patient bed and of the poor visibility in full personal protective equipment (PPE), we modified the PRF-plasty technique which initially required sutures, to a non-suture technique. We evaluated the wound surface and deepness during the hospitalization.

**Conclusions:** The procedure was safe both for the patient and the personnel and easy to be applied in COVID-19 pandemic conditions. The evolution of the wound site of the patient treated with the new PRF-plasty procedure was significantly faster (a wound contraction of 41.45% of the initial surface within 30 days), than the compared to the wounds previously treated according to standard procedures. There were no significant adverse effects reported. We defined as an expected outcome a contracted scar with less than half initial depth after 3 weeks from the procedure. There were no complications and the patient respiratory symptoms disappeared after 7 days of treatment with hydroxychloroquine and acetaminophen.

PRF clots were grafted without sutures to the wound bed. The technique represents a safe and efficient method to treat chronic wounds and to minimize the hospitalization of such patients. During a pandemic, a shortened hospitalization with proper treatment that can cover the wound bed and boosts the regeneration process can solve many problems in hospital management.

## ID260 Is Coexisting Type II Diabetes a Significant Prognosis Factor in Patients with Malignant Melanoma?

Vlad-Petre Atanasescu<sup>1,2</sup>, Andrei-Ludovic Porosnicu<sup>1,2</sup>, Ioana Ghiurco<sup>1,2</sup>, Stefania-Mihaela Riza<sup>1,2</sup>, Ruxandra Diana Sinescu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Plastic Surgery and Reconstructive Microsurgery, „Elias” Emergency University Hospital, Bucharest, Romania

During melanoma genesis, tumor cells interact with components of the immune system, whose functional activity is to prevent melanoma progression and metastasis. Unfortunately, in diabetes, the host's immune response is disrupted, and cellular immunity is impaired.

**Objective:** The purpose of this study is to determine if type II diabetes can be an independent risk factor for sentinel lymph node metastasis and to raise awareness on the topic of cutaneous malignant melanoma and type 2 diabetes patients.

**Materials and methods:** We designed this study as a two-stage research project. We reviewed all the patients treated for cutaneous malignant melanoma in the past two years in our department for the retrospective part. We selected only those with type II diabetes, and we divided them even further in patients who underwent sentinel lymph node biopsy (SLNB) or not. We studied the histopathological results from the initial biopsy and the SLNB. The prospective part, which will span for the next three years, will comprise further data collection from future cutaneous melanoma and type II diabetes patients. We aim to establish whether type II diabetes can be an independent risk factor and predictor for sentinel lymph node metastasis through statistical analysis.

**Results:** From the pool of patients with malignant melanoma admitted in our compartment, we found and selected ten patients with type II diabetes. According to the current international guidelines, we indicated SLNB for only four patients. None of them showed melanoma lymph node metastases.

**Conclusions:** Our study included a too-small group of patients that underwent SLNB for the results to be statistically significant. Still, we firmly believe that clinicians cannot ignore the impact of type II diabetes, and further research on this topic is needed.

## ID274 Surgical Approach for Symptomatic Intra-Stent Restenosis of the Brachiocephalic and Left Subclavian Arteries: a Case Report

Reza Nayyerani<sup>1</sup>, Roxana Carmen Geana<sup>1</sup>, Ion Iovu<sup>1</sup>, Andreea Simina Chibulcutean<sup>1</sup>, Alexandra Elena Cojocaru<sup>1</sup>, Ovidiu Stiru<sup>1,2</sup>, Vlad Anton Iliescu<sup>1,2</sup>

<sup>1</sup>„Prof. Dr. C.C. Iliescu” Emergency Institute for Cardiovascular Diseases, Bucharest, Romania

<sup>2</sup>Department of Cardio-Thoracic Pathology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

Supra-aortic trunks occlusive disease is a very rare condition. There are three different treatment approaches: endovascular, transthoracic reconstructions and extra-thoracic reconstructions. Over time, the endovascular treatment (balloon angioplasty and stenting) evolved into first-line therapy because of its low morbidity and rare mortality. Although, care must be taken in preoperative patient selection and risk stratification to minimize the risk of cerebral embolization and technical issues. Open surgical revascularization of the supra-aortic trunks was established as an effective and durable therapy for occlusive lesions. Herein we present the case of a 57-years-old female with intermittent claudication in the arms associated with paresthesia, fatigue, vertigo, amaurosis fugax and medical history of Takayasu disease. One year prior to this admission, she presented similar symptomatology. At that time, Doppler ultrasound assessment revealed significant stenosis of left subclavian artery (LSA) and brachiocephalic artery (BCA), for which the patient underwent percutaneous angioplasty with stent placement in LSA and BCA, both with 90% stenosis. At admission, physical examination revealed systemic blood pressure of 115/70 mmHg on the left arm, unmeasurable on the right arm and no radial pulses bilaterally. Doppler ultrasound assessment revealed intra-stent restenosis of 85% BCA and 70% on LSA. Aortic arch angiography revealed stent fracture with severe intra-stent restenosis of 90% on the BCA and 60% intra-stent restenosis on LSA. The rheumatology consultation and PET-CT examination excluded any suggestive lesions for Takayasu disease. We decided that surgical intervention is needed, and a “Y” shaped bypass between ascending aorta to BCA and from prosthesis to LSA using an armed ePTFE vascular grafts prosthesis (IMPRA D: 8-5mm, L: 70 cm) was performed. The “Y” shaped bypass was completely functional, and peripheral pulses were present on both superior limbs distally, with uneventful postoperative evolution.

## ID276 Surgical Treatment Options in the Non-Coronary Sinus of Valsalva Aneurysms

Reza Nayyerani<sup>1</sup>, Roxana Carmen Geana<sup>1</sup>, Ion Iovu<sup>1</sup>, Andreea Simina Chibulcutean<sup>1</sup>, Alexandra Elena Cojocaru<sup>1</sup>, Ovidiu Stiru<sup>1,2</sup>, Vlad Anton Iliescu<sup>1,2</sup>

<sup>1</sup>„Prof. Dr. C.C. Iliescu” Emergency Institute for Cardiovascular Diseases, Bucharest, Romania

<sup>2</sup>Department of Cardio-Thoracic Pathology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

Sinus of Valsalva aneurysm (SVA) is a very rare aortic root disease, representing 0.1% of congenital or acquired cardiac defects. Congenital SVA appears due to a deficiency of the muscular or elastic tissue located in the aortic wall of the affected sinus. The weakness of the aortic wall causes localized dilation with the appearance of the aneurysm. Infections, degenerative disorders, atherosclerosis or trauma, are involved in the occurrence of acquired SVA. Depending on its origin, the most frequent location for congenital SVA is the right coronary sinus, followed by the non-coronary sinus, with the left coronary sinus being the rarest. Unruptured SVA is usually asymptomatic and is discovered accidentally. Imagistic investigations are required for diagnosis and evaluation of associated cardiac pathologies or coronary anomalies.

Considering the complications that may occur in the evolution of an SVA (protrusion and rupture in the cardiac chambers or in the pulmonary artery, dilatation of on aortic annulus with aortic insufficiency, myocardial ischemia, malignant arrhythmias), SVA require surgical repair on cardio-pulmonary bypass. There are various surgical options, including aortic root replacement procedures (when the aortic root is dilated), valve-sparing procedures (in young patients with aortic annular ectasia), Bentall procedure (when the aortic valve cannot be preserved) or sinus excision with aortic root reconstruction (if the aortic valve is tricuspid and normal). We present images from our surgical experience in reconstruction of the aortic root with bovine pericardial patch for a large extracardiac unruptured non-coronary SVA and from cases where Bentall procedure was performed. The challenge in replacing a single aneurysmal sinus is maintaining the competence of the aortic valve.

**Conclusion:** To prevent major complications, such as rupture and sudden death, SVA requires surgical repair adapted to each case, nowadays being available several surgical options.

## ID288 Initial Experience of Using Meek Micrografting in Pediatric Burn Patients

Raluca Tatar<sup>1,2</sup>, Iulia Nacea<sup>2</sup>, Cristina Stoica<sup>2</sup>, Bogdan Prisecaru<sup>2</sup>, Simona Stoicescu<sup>1,2</sup>, Dan Mircea Enescu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Grigore Alexandrescu” Clinical Emergency Hospital for Children, Bucharest, Romania

**Objective:** Burn injuries represent a major public health issue. Early excision of burn wound and covering with autologous skin grafts is the only viable solution for stopping the systemic inflammatory syndrome and the burn shock. In case of extensive burns, affecting more than 50% TBSA, the available donor sites become a problem. For optimizing the use of the healthy skin, several expanding procedures can be performed. The Meek micrografting technique, that allows a wider expansion rate, offers a new perspective for obtaining favorable outcomes in the surgical treatment of extensive burns in children.

**Material and method:** Our center was endowed with the appropriate Meek devices in the framework of a World Bank program in the second half of 2019, and we have been using them ever since. We retrospectively reviewed the charts of all surgically treated pediatric burns that were admitted in our center, and we analyzed all the cases that were approached by using the modified Meek technique for covering the skin defects, registering the burn wound characteristics and the outcomes.

**Results:** We retrieved 10 patients whose surgical protocol included the modified Meek micrografting technique, admitted in our department between October 2019 and December 2020. The patient age ranged between 1 and 17 years old. The main etiology for this group was flame. The surface varied from 20% to over 90% TBSA, with an average of 54% TBSA. The mean hospital stay was comparable to that of the conventional technique. There were no fatalities in this group.

**Conclusions:** The Meek micrografting proved to be a reliable technique that ensured coverage of burn wounds and survival of extensive burn patients in absence of a functional skin bank or of synthetic skin substitutes. It also allowed the use of more limited donor sites, decreasing the potential morbidity related to those areas.

## ID294 Quality of Life for Patients with Surgical Treatment for Cutaneous Melanoma

Luiz-Sorin Vasiiu<sup>1,2</sup>, Daniela-Elena Gheoca-Mutu<sup>1</sup>, Adelaida Avino<sup>1,2</sup>, Radu Cristian Jecan<sup>1,2</sup>, Laura Raducu<sup>1,2</sup>

<sup>1</sup>Department of Plastic Surgery, „Prof. Dr. Agrippa Ionescu” Clinical and Emergency Hospital, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Annually, in the US, 3.5 million new skin cancer cases are diagnosed, representing 40-50% of all diagnosed cancers. Statistically, out of all skin cancers, Cutaneous Melanoma represents 4% of incidence, but 50% of mortality. Patients diagnosed with Cutaneous Melanoma show a decreased perceived quality of life. This presentation aims to assess the quality of life of patients with Cutaneous Melanomas before and after surgery.

**Methods:** We performed a study during a period of 1 year that included 25 patients diagnosed with Cutaneous Melanoma, which have undergone surgical treatment in our clinic. Quality of life was evaluated using a questionnaire that was given at admission, one month after surgery, and at one year after surgery. The questionnaire assessed factors such as patients' perceived mobility, selfcare, and pain.

**Results:** Quality of life significantly decreased with little or no increase after 1 year. The mean age for Cutaneous Melanoma incidence is 48 years, 15 patients were male, with 80% of patients residing in urban areas. All items in the questionnaire showed a decrease in patients' perceived quality of life, an example being the increase in patients' despair levels, which remained high even at one year after surgery.

**Conclusion:** Cutaneous Melanoma is the most deadly type of skin cancer, with a growing incidence. Most patients experience a decrease in life quality after the diagnosis.

## ID305 Patient-Reported Quality of Life 6 Months after Breast Reconstruction

Adelaida Avino<sup>1,3</sup>, Daniela-Elena Gheoca-Mutu<sup>2,3</sup>, Laura Raducu<sup>1,3</sup>, Sorin-Andrei Nedelea<sup>4</sup>, Ioan Lascar<sup>1,5</sup>, Cristian-Radu Jecan<sup>1,3</sup>

<sup>1</sup>Discipline of Plastic and Reconstructive Surgery, Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Discipline of Anatomy, Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Department of Plastic and Reconstructive Surgery, „Prof. Dr. Agrippa Ionescu” Clinical Emergency Hospital, Bucharest, Romania

<sup>4</sup>Department of Urology, „Prof. Dr. Agrippa Ionescu” Clinical Emergency Hospital, Bucharest, Romania

<sup>5</sup>Department of Plastic and Reconstructive Surgery, Emergency Clinical Hospital, Bucharest, Romania

**Background:** The malignant breast tumor is considered be one of the most frequent cancers in women worldwide, affecting more than 1.5 million women every year. Even if the cases of breast-conserving surgery have an ascending trend, the majority of patients needs total mastectomy. Unfortunately, the mastectomy leads to a permanent and negative change to the aspect of the woman. Due to a remarkable progress, the reconstructive procedures after mastectomy have improved significantly the quality of life especially in younger women. The aim of the study was to evaluate the quality of life of patients 6 months after breast reconstruction.

**Methods:** We performed a prospective study on 40 female patients who underwent immediate or delayed reconstruction of the breast after mastectomy. A health-related quality of life questionnaire was distributed and the answers were evaluated.

**Results:** The patients from the rural area reported that their health in general was much worse than one year ago. The patients with ductal carcinoma reported a serious limitation for vigorous activities, such as running, lifting heavy objects, participating in strenuous sports. 28 patients declared that their general health is good, 10 very good and just two women considered it excellent.

**Conclusions:** Breast reconstruction following mastectomy have an effect on the patient's quality of life. Therefore, there is an increased need to recognize and evaluate the quality of life after post reconstruction.

## ID307 Oesophageal Surgery – Patient Based Management and Literature Review

Ioan Cordos<sup>1</sup>, Ciprian Bolca<sup>2</sup>, Genoveva Cadar<sup>3</sup>, George-Codrut Cosoveanu<sup>3</sup>, Adriana Melinte-Vlaicu<sup>1</sup>, Ana-Adelina Afetelor<sup>3</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Hospital Charles LeMoine, Universite de Sherbrooke, Quebec, Canada

<sup>3</sup>„Marius Nasta” Institute of Pneumophthysiology, Bucharest, Romania

**Introduction:** Oesophageal afflictions associated with dysphagia require an effective management, either in the care of the surgical team, or the gastro-enterologist. Oesophageal neoplasm remains one of the most aggressive types of cancer, which implies a multi-disciplinary approach, the endgame being the proper balance between a prolonged life and its quality.

**Method:** There are many surgical approaches, involving different techniques which can be applied depending on the characteristics of the tumour. It is of utmost importance to take into consideration how the prior oncological treatment may affect the surgical outcome (especially radiotherapy).

This paper aims to depict three clinical cases, which were treated in the Surgical Clinic of “Marius Nasta” Institute of Pneumophthysiology. Two of these patients were diagnosed with oesophageal stenosis due to oesophageal cancer, while the last one presented with chronic dysphagia as a consequence of oesophageal atresia, having already suffered a surgical intervention as a newborn. Nevertheless, this study’s data was compared with international literature and the results are presented accordingly. Depending on the case, the surgical procedures involved were the Sweet technique, the Orringer procedure and an oesophagectomy with transverse colon interposition.

**Results:** Optimal surgical results were considered to involve R0 resection with the best possible post-operative quality of life for the patient. No major complications were encountered early after the surgery. Abdominal drainage was considered moderate in all three cases and the drainage tubes were removed as late as the 12<sup>th</sup> day after surgery. Only one case developed a late anastomosis ulceration, which was treated conservatively.

**Conclusion:** Oesophageal surgery remains a complex subject, due to the high morbidity and mortality associated with it its need of a very well-trained medical and surgical team. However, the surgical approach still remains the only viable option in a curative treatment for oesophageal neoplasm.

## ID309 Giant Intramuscular Thigh Lipoma – a Case Report

Abdalah Abu-Baker<sup>1</sup>, Daniela Ion<sup>1</sup>, Sorin Luiz Vasii<sup>1</sup>, Daniela Gheoca-Mutu<sup>1</sup>, Adelaida Avino<sup>1</sup>, Radu Cristian Jecan<sup>1</sup>, Laura Raducu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Lipomas are the most frequent benign mesenchymal tumors. They typically consist of mature adipocytes and are most commonly located under the skin. They are usually characterized by a slow rate of growth and are detected by the patient only when they are visible to the naked eye unless they are located in an area prone to discomfort.

**Method:** We present the case of GV, a 58-year-old male patient, who presented with a large subcutaneous tumor, first observed 5 years prior to presentation and which slowly increased in size during this time. The patient experienced discomfort when walking and wearing pants due to the location and size of the tumor.

Clinical examination showed a round, regular subcutaneous tumor of approximately 20x23 cm, situated on the medial thigh, of soft-elastic consistency, without any tenderness, and with no lymph nodes found at palpation.

**Results:** The patient underwent an ultrasonography-guided biopsy which showed fibrosclerosis tissue that includes mature adipocytes and scleroadipose tissue. We also did a lower limb and pelvis CT scan which showed a tumor with adipose structure and segmental degenerative areas, located between the adductor muscles, in close contact with the femoral blood vessels.

During surgery, a 19x15x6 cm, 2.5 kg lipomatous tumor was dissected from under the adductor longus muscle and sent for further histopathological examination. The residual cavity was closed and an active drain system was put in place.

**Conclusion:** The anatomopathological examination revealed the diagnosis of intramuscular lipoma. Further MDM2 FISH testing is recommended for detection of any areas with sarcomatous transformation. The main concern for lipomas greater than 5 cm in diameter is malignant transformation towards liposarcoma.

## ID314 Tenosynovial Giant Cell Tumor of the Hand - a Case Presentation

Ion Daniela – Elena<sup>2</sup>, Adelaida Avino<sup>1</sup>, Daniela Gheoca-Mutu<sup>1</sup>, Vasii Sorin<sup>1</sup>, Abu-Baker Abdallah<sup>2</sup>, Radu Cristian Jecan<sup>1</sup>, Laura Raducu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>„Prof. Dr. Agrippa Ionescu” Emergency Clinical Hospital, Bucharest, Romania

**Objective:** Tenosynovial giant cell tumors (TGCTs) represent the second most frequently encountered tumors of the hand, arising particularly in women aged 30-60. Originating in the soft tissue of the tendon sheaths of the first three digits, these rapidly growing benign masses pose significant problems not only by restricting the range of motion of the affected fingers, but also through eroding deep structures such as the underlying bones and joints.

**Method:** We present the case of a 32-year old woman with painless swelling of the proximal interphalangeal joint of the left index finger progressively advancing along the dorsal and volar aspects of the adjacent phalanges during the past 2 years, unrelated to previous injury. Minimal functional impairment and radiographic anomalies were associated despite extensive involvement of the articular structures and bones, as proven intraoperatively.

### Results:

- Surgical access was gained through a lazy S incision on the ulnar side of the index finger
- A multinodular tumor sized 3,5x5x1,1cm extended from dorsal aspect of the proximal phalanx (eroding the periosteum) across the proximal interphalangeal joint (disrupting the articular capsule, ligaments and volar plate) to the volar aspect of the middle phalanx (imprinting its base through compression)
- Displacement and compression of the ulnar neurovascular bundle was observed
- Complete excision was achieved; volar plate and ligament reattachment through direct suture were required, followed by split immobilization for 3 weeks.

Microscopic examination confirmed the presence of TGCT (localised form). Clinical and ecographic follow-up is necessary to detect local recurrence (occurring in 15-50% of cases), exceptionally with sarcomatous transformation.

**Conclusion:** TGCTs provide a complex challenge for the surgeon, who must endeavour to maintain the balance between preserving the anatomical elements vital for ensuring adequate hand function and attaining complete excision in order to prevent local recurrence.

## ID318 Management of Malignant Melanoma Metastasis

Luiz-Sorin Vasii<sup>1,2</sup>, Daniela-Elena Gheoca-Mutu<sup>1</sup>, Adelaida Avino<sup>1,2</sup>, Radu Cristian Jecan<sup>1,2</sup>, Laura Raducu<sup>1,2</sup>

<sup>1</sup>Department of Plastic Surgery, „Prof. Dr. Agrippa Ionescu” Emergency Clinical Hospital, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Cutaneous Melanoma is a type of skin cancer with a reported incidence in Europe of 150 000 new cases and a 5-year prevalence of 500 000 cases. The 10-year metastasis rate for cutaneous melanoma has been reported to be at 6.5 % of cases. The reported 5-year survival rate for patients with Cutaneous Melanoma is approximately 90% in Northern countries and less than 60% in Eastern European countries.

**Methods:** We present the case of a 65-year-old patient treated for cutaneous melanoma located on the posterior thorax in 2016, in the Plastic Surgery Department of „Prof. Dr. Agrippa Ionescu” Clinical and Emergency Hospital. He performed a computed tomography in 2019, that identified a lesion suspicious for a secondary determination in the inguinal area. Due to the Covid-19 pandemic, he was unable to further undertake imaging procedures to assess the disease's evolution. The patient came for reevaluation in 2021, when we have identified a 10 x 6 cm solid nodular tumor in the left inguinal area, that caused neurological symptoms in the left inferior limb, and palpable lateral-thoracic lymph nodes on the left hemithorax. We performed a computed tomography that revealed numerous lateral-thoracic, splenic, and hepatic lesions, suspicious for metastases of Cutaneous Melanoma.

**Results:** Surgical treatment was approached in a multidisciplinary team, and the inguinal tumor and the lateral-thoracic lymph nodes have been excised. The left inguinal tumor encircled the Great Saphenous Vein and compressed the Femoral Nerve due to mass effect. The histopathological examination diagnosed the tumors as lymph nodes metastases of Cutaneous Melanoma. The patient was referred to an oncologist for immunotherapy and follow-up.

**Conclusions:** Cutaneous Melanoma is an aggressive type of skin cancer with a high potential for metastasation that should be properly managed in a multidisciplinary team and monitored over a long period.

## ID338 Nerve Sarcoma in the Late Stage of Pregnancy – Case Report

Oana Eliza Cretu<sup>1,2</sup>, Alina-Alexandra Dirlau<sup>1,2,3</sup>, Cristian Poalelungi<sup>1,2</sup>, Dragos Muraru<sup>4</sup>, Bogdan Mihai Marinescu<sup>4</sup>, Iuliana Ceausu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Obstetrics and Gynecology, „Dr. Ioan Cantacuzino” Clinical Hospital, Bucharest, Romania

<sup>3</sup>„Dr. N. Kretzulescu” Medical Center for Diagnosis and Treatment, Bucharest, Romania

<sup>4</sup>„Carol Davila” Central Military Emergency Hospital, Bucharest, Romania

**Introduction:** Cancer diagnosis during pregnancy is a rare coexistence in a ratio of one per 1000 deliveries. Malignant soft tissue tumors in pregnancy are an uncommon finding and the diagnostic and staging workup should be very carefully performed due to maternal and fetal radiation exposure. Malignant soft tissue tumors found in pregnant patients require an individualized treatment regimen involving the safety of the pregnancy, surgical timing, routes, techniques, which should be decided in multidisciplinary teams as any intervention presents risks to both mother and fetus.

**Methods:** We present the management of a 25-year-old patient presented at the hospital at 32 weeks' gestation for major pain syndrome (VAS >7). The patient was diagnosed 3 years ago with a tumoral mass located in the right popliteal fossa, but she did not continue investigation. During pregnancy, compressive and painful symptomatology increased. Exploratory surgery was performed and it revealed a big 9/3 tumor, that invades sciatic nerve, posterior tibial nerve and common peroneal nerve. Pathology exam diagnosis was high grade malignant tumor-sarcoma. The corticotherapy for fetal lung maturation was initiated immediately after the surgery, because the frozen tissue raised the suspicion of malignancy, and the patient was transferred to our hospital at 33 weeks' gestation with highly painful syndrome that required administration of maximal analgetic medication.

**Results:** The multidisciplinary team - plastic surgeon, oncologist, pathologist, obstetricians, neonatologists and anesthesiologist decided emergency caesarean section for maternal reasons at 34 weeks' gestation. The neonate, 1740g girl, APGAR 7/5, 9/10, was admitted in the NICU for prematurity and has an uneventful outcome related to her prematurity. The postoperative recovery was marked by intense popliteal painful symptomatology. The patient was transferred to „Carol Davila” Central Military Emergency Hospital to continue the oncologic assessment and therapy.

**Discussions:** Diagnostic follow-up of pregnant women presenting with growing or painful mass, suspected to be a malignant soft tissue tumor, should be in a multidisciplinary approach, discussing all possible consequences for mother and fetus, in accordance with the available literature.

## ID341 A Safe Method of Chest Wall Reconstruction

Claudiu-Eduard Nistor<sup>1</sup>, Anca-Pati Cucu<sup>2</sup>, Camelia Gavan<sup>2</sup>, Adrian Ciuche<sup>1</sup>

<sup>1</sup>Department of Thoracic Surgery, Clinic of Thoracic Surgery, „Dr. Carol Davila” Central Emergency University Military Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Clinic of Thoracic Surgery, „Dr. Carol Davila” Central Emergency University Military Hospital, Bucharest, Romania

**Objective:** We present a chest wall soft tissue reconstruction technique, who can be used as well in bony reconstruction when rib cage is affected. The harvesting and transposition of flaps were performed entirely by thoracic surgeons.

**Materials and methods:** A 58-year-old woman was admitted with a large non-homogeneous mass on the left anterior chest wall measuring 14/8/15 cm. The mass was located next to anterior costal arches III-VIII, and there was no evidence of intrathoracic invasions. The pathology report confirmed the presence of a malignant peripheral nerve sheath tumour. Ideal tumorectomy en bloc with pectoralis major and invaded skin was performed. A vertical right abdominis musculocutaneous flap was selected for reconstruction.

**Results:** Postoperative results were favourable; the flap was viable. 4-weeks follow-up confirmed the lack of tumoral evolution and the integrity of the flaps.

**Conclusions:** This is an uncommon reconstruction technique for thoracic wall tumours. The vertical right abdominis flap enables a safe reconstruction and efficient integration of transposed tissue, provided that the deep superior epigastric pedicle is preserved.

## ID342 The Impact of New Technology on Thoracic Surgical Practice

Claudiu-Eduard Nistor<sup>1</sup>, Camelia Gavan<sup>2</sup>,  
Anca-Pati Cucu<sup>2</sup>, Adrian Ciuche<sup>1</sup>

<sup>1</sup>Department of Thoracic Surgery, Clinic of Thoracic Surgery, „Dr. Carol Davila” Central Emergency University Military Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Clinic of Thoracic Surgery, „Dr. Carol Davila” Central Emergency University Military Hospital, Bucharest, Romania

**Objective:** This paper presents the positive influence of modern technology in thoracic surgery on of safety, extent, and duration of the intervention.

**Materials and methods:** We present imaging studies and pre-/intra- and postoperative images from several selected cases. Surgical technique was optimized by the use of modern technology- electrical vascular seal (LigaSure® & ENSEAL®), by ultrasound (HARMONIC®) and vascular staplers allowing safe surgical maneuvers and shortening of operating time.

**Results:** The use of modern technology enabled us to perform complex surgery, thus avoiding complications that might have endangered the patients' lives. Current stapling and bipolar devices allow easy and safe vessel stapling and sealing, in both minimally invasive and open surgery. Adaptive tissue technology permits enhanced surgical precision and performance across tissue variability.

**Conclusions:** The use of modern technology in thoracic surgery allows increased safety and efficacy of surgery, increased precision in complex surgery, and reduction of intraoperative and postoperative complications.

## ID343 Thoracic Surgery Emergencies in COVID-19 Patients

Claudiu-Eduard Nistor<sup>1</sup>, Camelia Gavan<sup>2</sup>,  
Anca-Pati Cucu<sup>2</sup>, Adrian Ciuche<sup>1</sup>

<sup>1</sup>Department of Thoracic Surgery, Clinic of Thoracic Surgery, „Dr. Carol Davila” Central Emergency University Military Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Clinic of Thoracic Surgery, „Dr. Carol Davila” Central Emergency University Military Hospital, Bucharest, Romania

**Introduction:** SARS-CoV-2 infection, a new clinical entity that has spread all over the world at the end of 2019, can lead to air-leak complications such as pneumothorax, pneumomediastinum, and/ or subcutaneous emphysema, requiring a good collaboration between the thoracic surgeon and all the other specialists for their management

**Materials and method:** A thorough analysis of all the 32 patients admitted over 9 months in our hospital for SARS-CoV-2 pneumopathy complicated with pneumothorax, pneumomediastinum, and/ or subcutaneous emphysema, as single entities or associated, was performed. In pneumothorax patients pleural drainage was performed, while in patients with pneumomediastinum associated or not with subcutaneous emphysema, subcutaneous needle insertion, and angiocatheter needles along with manual cutaneous decompressive massage were used.

**Results:** In most of the cases, despite initial improvement following surgery, evolution was unfavorable, especially in intubated patients, mostly due to both comorbidities and dynamic evolution of these patients towards ARDS.

**Conclusions:** Survival depends mostly on the degree of severity of the pulmonary lesions. SARS-CoV-2 infection and SARS-CoV-2 pneumopathy must be included in the etiopathogenic classification of secondary spontaneous pneumothorax.

## ID369 A Rare Case of Penetrating Accidental Hepatic and Colonic Injury

Octavia Cristina Rusu<sup>1</sup>, C.C. Popa<sup>2</sup>,  
Ioana Dumitrascu<sup>2</sup>, Teodora Delia Chiriac<sup>2</sup>,  
R.V. Costea<sup>2</sup>

<sup>1</sup>Second Department of Surgery, Emergency University Hospital, Bucharest, Romania

<sup>2</sup>Second Department of Surgery, Emergency University Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Introduction:** Penetrating abdominal injuries occur when a foreign object pierces the abdominal wall. The external appearance of the penetrating wound does not determine the extent of internal injuries.

**Material and method:** We present the case of a 58-year-old patient with a history of cholecystectomy. At the admission in our Clinic, the patient had low intensity right flank abdominal pain, moderate leukocytosis and inflammatory syndrome. The patient stated accidental puncture with a metal body (sewing needle) on the right flank ten days before the presentation, without finding a skin lesion at the clinical examination. The radiological examination confirmed the existence of a radiopaque foreign body projected on the right flank. Abdominal computed tomography revealed the presence of an intrahepatic metal foreign body and possible damage of the colon. Surgery was performed and a transfixing liver wound and a colonic parietal wound were found. Foreign body extraction, viscerolysis, colonic suture and hemostasis on the liver were performed.

**Results and discussions:** The postoperative evolution was favorable. In the case of this patient, the colonic lesion occurred due to the postoperative (cholecystectomy) subhepatic adhesion syndrome, which solidified the colonic wall with the visceral part of the liver.

**Conclusions:** It is important to define the trajectory of a penetrating wound and to consider all possible internal injuries, as well as the appropriate treatment. The morbidity and mortality associated with penetrating abdominal trauma is directly related to the abdominal injured organs and the nature and severity of abdominal injuries vary widely depending on the mechanism and forces involved.

## ID384 A Rare Case of Midline Dermoid Cyst Deforming the Nasal Pyramid in a Young Woman

Andrei Dumitrescu<sup>1</sup>, Sorin Parasca<sup>2</sup>

<sup>1</sup>Emergency Clinical Hospital of Reparatory Plastic Surgery and Burns, Bucharest, Romania

<sup>2</sup>11<sup>th</sup> Department of Reconstructive Plastic Surgery, Pediatric Surgery, Emergency Clinical Hospital of Reparatory Plastic Surgery and Burns, Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** The aim of the article was to show that an open rhinoplasty approach in conjunction with direct excision can give a great aesthetic result in a patient who presented with a tumor which is rarely encountered at an adult age.

**Methods:** A dermoid cyst is a rare lesion mainly diagnosed in the first 3 years of life. It is located in the nasal area in about 1% of cases and of these, nearly 10% have intracranial extension. We present the case of a 31 year old woman who came in for aesthetic rhinoplasty. She had a cutaneous fistula in the nasal dorsum which showed recurrent seropurulent discharge.

**Results:** A clinical diagnosis of dermoid cyst was made and an IRM was ordered preoperatively to establish the presence of intracranial extension. No such evidence was found. An open rhinoplasty was performed and an external dorsum incision was used for cutaneous fistula excision, lateral spreading of the nasal bones was found as well as an anterior septal defect in the upper portion. The cyst was excised and the rhinoplasty was carried out as usual. The patient was discharged the following day and a great cosmetic result was seen at one week postop.

**Conclusions:** A nasal dermoid cyst is an extremely rare finding in an adult. A limited external approach in conjunction with an open rhinoplasty provide wide exposure for a complete cyst excision. A potential intracranial extension should always be investigated. Incomplete excision has a high recurrence rate.

## ID392 Delay Versus Planned Birth for Women with Preterm Prelabour Rupture of Membranes Prior to 34 Weeks' Gestation for Increasing Neonatal Outcome

Valentin Varlas<sup>1</sup>, Mihaela Demetrian<sup>2</sup>

<sup>1</sup>Department of Obstetrics and Gynecology, Filantropia Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Neonatology, Filantropia Hospital, Bucharest, Romania

**Abstract:** Premature births are a big challenge for both obstetricians and neonatologists. Neonatal respiratory distress syndrome involves finding the best strategies to ensure the survival of premature babies with reduced complications and neurological sequelae. These strategies begin antenatal, continue in the delivery room, and expand into neonatal intensive care units.

**Objectives:** To compare delay vs. planned birth for women with PPRM prior to 34 weeks gestation. **Methods.** The retrospective study compared 162 pre-term infants with gestational age  $\leq 32$  weeks born in “Philanthropy” Hospital between 2018 - 2019. Premature babies were divided into two groups: the group P (+) with PPRM and birth delay throughout corticosteroids (CS) prophylaxis ( $n = 85$ ) and the P (-) group in which the birth occurred either before or after the complete administration of CS, but in which the delay did not exceed 72 hours ( $n = 77$ ).

**Results:** The mean gestational age was 29 weeks. The time elapsed from the rupture of the membranes to the time of birth was longer in the average P (+) group  $141 \pm 22.9$  hours vs.  $37.8 \pm 18.5$ . In the P (+) group, the number of children extracted by cesarean section increased (74% vs. 60%  $p=0.002$ ). In the P (+) group, the incidence of maternal-fetal infection was lower (27% vs. 35%), and the percentage of ventilated premature infants was higher (82% vs. 62%), but non-invasive ventilation modes predominated. The average duration of ventilation in the P (+) group was 10 days vs. 7.6 ( $p=0.06$ ).

**Conclusion:** As no significant differences in gestational age and surfactant administration were observed between the 2 groups, the duration of ruptured membranes in the group that applied the birth timing led to more severe forms of respiratory distress that prolonged the duration of ventilation and implicitly oxygen therapy.

## ID393 Quality of Life Assessment in Patients with Anterior Rectal Resection with Sphincter Preservation

Octavian Andronic<sup>1</sup>, Dan Nicolae Paduraru<sup>1</sup>, Alexandra Bolocan<sup>1</sup>, Florentina Musat<sup>1</sup>, Daniel Ion<sup>1</sup>, Sorin Mircea Oprescu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Rectal cancer is a public health problem with a growing incidence globally and a still high mortality in Romania. Diagnosis in advanced loco-regional stages often requires extensive resections and aggressive adjuvant therapies with major functional impairment and a marked decrease in quality of life.

The problem of quality of life in rectal surgery in patients with neoplastic disease is rarely addressed in Romania, studies on this topic are limited and post-therapeutic follow-up protocols do not include quality of life assessment.

The present study aims to evaluate the quality of life in a group of patients with rectal cancer who had anterior rectal resection with colorectal anastomosis.

**Material:** The study was unicentric: within the General Surgery and Emergency Clinic III, Bucharest University Emergency Hospital, retrospective: data were collected between January 1, 2019 - February 29, 2020 for patients operated between January 1, 2012 - December 31, 2019, descriptive and non-interventional.

The evaluation of the quality of life in the patients included in the research was performed, with LARS Score and the EORTC QLQ-C30 and QLQ-CR29 questionnaires.

**Result:** The study group consisted of 139 patients. In our study, a percentage of 31.7% of cases was included in the LARS Major group, so that 68.3% of them would be included in the groups Without LARS and LARS Minor. The general quality of life, assessed by the EORTC QLQ-C3 questionnaire, showed an average value of 51.55 (with a range of 0-100).

**Conclusions:** The LARS score proved to be a useful and easy tool in the objective analysis of digestive complications in patients with rectal cancer whose surgical management involved techniques with sphincter preservation, although the complexity of EORTC questionnaires may highlight various particular aspects of quality of life in these patients.

## ID400 Challenging Management of Renal Clear Cell Carcinoma and Pregnancy – Case Report

Oana Eliza Cretu<sup>1,2</sup>, Alina-Alexandra Dirlau<sup>1,2,3</sup>,  
Cristian Poalelungi<sup>1,2</sup>, Cristian Mares<sup>1,4</sup>,  
Viorel Jinga<sup>1,4</sup>, Iuliana Ceausu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>2</sup>Department of Obstetrics and Gynecology, „Dr. Ioan  
Cantacuzino” Clinical Hospital, Bucharest, Romania

<sup>3</sup>„Dr. N. Kretzulescu” Medical Center for Diagnosis and  
Treatment, Bucharest, Romania

<sup>4</sup>Department of Urology, „Prof. Dr. Th. Burghel”  
Hospital, Bucharest, Romania

**Introduction:** Renal cell carcinoma is rarely diagnosed during pregnancy and its management is a real challenge due to lack of standard guidelines. It is a very rare entity and it represents a daunting therapeutic dilemma for the urologist and obstetrician.

**Methods:** We present the multidisciplinary management of a 36-year-old patient presented for the first time at the hospital at 21 weeks' gestation for macroscopic hematuria. Imagistic investigation revealed the presence of a renal tumor. An ultrasound guided biopsy was taken and the cytopathological result was highly suspicious neoplasia. The patient was admitted to our hospital at 27 weeks gestation with severe anemia and a second episode of macroscopic hematuria. After extensive counselling and consultation with urologic staff, it was decided to postpone the surgical intervention, to initiate the corticotherapy for fetal lung maturation. Multiple transfusions and iron preps were administered to control the maternal severe anemia.

**Results:** The patient underwent induction of labor at 34 weeks' gestation and a 2000g boy was delivered by emergency caesarean section for maternal interest. The postoperative recovery was uneventful. The patient was transferred to „Prof. Dr. Th. Burghel” Hospital for performing the nefrectomy. Histopathological findings revealed a clear cell carcinoma with reginal invasion.

**Discussions:** Renal cell carcinoma is rarely diagnosed during pregnancy as the clinical presentation might resemble other pregnancy-related disorders, but it should be of the diagnostic possibilities in women with recurrent or refractory urinary tract symptoms, hematuria or renal pain. The landscape of renal cell carcinoma management has changed during the past few years, but surgery remains the main stay modality, if localized. Renal tumors found in pregnant patients require an individualized treatment regimen involving the safety of the pregnancy, surgical timing, routes, techniques, which should be decided in multidisciplinary teams as any intervention presents risks to both mother and fetus.

# THE WINNERS OF THE YOUNG INVESTIGATORS' AWARD COMPETITION

---

## **YOUNG INVESTIGATORS' AWARD – MEDICAL SPECIALITIES „IN MEMORIAM PROF. DR. OVIDIU BAJENARU”**

ID320: Hayat Memis, S. Mihaila-Bâldea, AE. Velcea, A. Andreescu,  
D. Mihalcea, R. Rimbas, D. Vinereanu

*Left Atrial Function Assessed by 3-Dimensional Echocardiography Is an Independent  
Predictor for Mortality in Heart Failure with Reduced Ejection Fraction*

## **YOUNG INVESTIGATORS' AWARD – SURGICAL SPECIALITIES**

ID223: Danut-Constantin Ciotirla, Radu Mirica, Andrei Vacarasu,  
Razvan Iosifescu, Marius Zamfir, Alina Iorgulescu, Alexandra Mirica,  
Mara Mardare, Niculae Iordache, Octav Ginghina

*Spontaneous Hematomas in the COVID-19 Era - New Challenges*

## **YOUNG INVESTIGATORS' AWARD – PRECLINICAL SPECIALITIES**

ID182: Dimitri Apostol, Mirela Maria Iacob, Adriana Talangescu,  
Andreea Mirela Caragea, Ion Maruntelu, Maria Tizu, Carmen Preda,  
Secil Omer, Victor Stoica, Mircea Diculescu, Ileana Constantinescu

*Analysis of MicroRNA Changes in Patients with Autoimmune Digestive Diseases -  
Preliminary Data*

## **YOUNG INVESTIGATORS' AWARD – DENTAL MEDICINE**

ID328: Claudiu Calin, Anca Coricovac, Andrei Mihai, Andreea Didilescu

*Beta-tricalcium Phosphate and Platelet-rich Fibrin in Maxillary Postextractional Defects:  
A Micro-CT Evaluation*

## **YOUNG INVESTIGATORS' AWARD – PHARMACY**

ID377: Beatrice-Cristina Ivan, Florea Dumitrascu, Robert Viorel Ancuceanu,  
Adriana Iuliana Anghel, Constantin Draghici, Stefania-Felicia Barbuceanu

*Synthesys and Toxicity Evaluation of Some New Pyrrole Derivatives with  
Potential Biological Activity*

**MEDICAL SPECIALITIES**

**ID256 Hypothyroidism and Heart Failure with Preserved Ejection Fraction - Dangerous Liaisons**

Bianca Adriana Nita<sup>1,2</sup>, Caterina Delcea<sup>1,2</sup>,  
Ancuta Vijan<sup>1,2</sup>, Ruxandra Martin<sup>1</sup>,  
Adrian Buzea<sup>1,2</sup>, Gheorghe-Andrei Dan<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>2</sup>Department of Cardiology, Colentina University  
Hospital, Bucharest, Romania

**Objective:** The impact of hypothyroidism in heart failure (HF) with reduced ejection fraction was established in numerous studies. The relationships between the former and HF with preserved ejection fraction (HFpEF), however, remain scarcely documented.

This study aims to assess the impact of hypothyroidism on morbidity and mortality of patients with this particular phenotype of HF.

**Methods:** HFpEF patients consecutively admitted to our Cardiology Department from July 2018 to December 2019, with a TSH value determined on admission were retrospectively enrolled in our cohort. Incomplete clinical or echocardiographic data, concomitant treatment with drugs interfering with thyroid function (amiodarone), pregnancy, in-hospital mortality and readmissions were exclusion criteria. Survival status was assessed in July 2021 and all-cause mortality was documented after a mean follow-up of 27 months.

**Results:** Our sample consisted of 351 patients, 63.82% female, with a mean age of  $72.54 \pm 9.25$  years. 19.09% had hypothyroidism, with a significant female predominance (83.58% vs. 16.42%,  $p < 0.001$ ).

Hypothyroidism (HR 1.95, 95%CI 1.05-3.59,  $p = 0.03$ ) was correlated with chronic kidney disease (CKD) in multivariable analysis. Hypothyroid patients had a lower mean hemoglobin value ( $12.54 \pm 2.10$  vs.  $13.10 \pm 1.86$  g/dl,  $p = 0.03$ ), higher potassium levels ( $4.54 \pm 0.43$  vs.  $4.36 \pm 0.49$  mmol/L,  $p = 0.006$ ) and higher estimated systolic pulmonary arterial pressure (median 38.5 vs. 32 mmHg,  $p = 0.009$ ).

In the hypothyroid subgroup, in multivariable analysis, age (HR 1.11, 95%CI 1.03-1.19,  $p = 0.005$ ) and increased TSH values (HR 6.86, 95%CI 1.79-26.28,  $p = 0.005$ ) were independent factors influencing the prevalence of CKD.

All-cause medium-term mortality was 18.23% in the entire cohort and 22.39% among hypothyroid patients. Hypothyroid state was not a risk factor for all-cause mortality in HFpEF patients (OR 1.35, 95%CI 0.70-2.61,  $p = 0.45$ ).

**Conclusion:** Hypothyroidism did not influence the survival, but was linked to the burden of morbidity (CKD, pulmonary hypertension, anemia) in HFpEF patients.

**ID263 Professional Training of Medical Residents in Gastroenterology During COVID-19 Pandemic**

Gina Gheorghe<sup>1,2</sup>, Gabriel Constantinescu<sup>1,2</sup>,  
Oana-Mihaela Plotogea<sup>1,2</sup>, Vlad Ionescu<sup>2</sup>,  
Vasile Sandru<sup>2</sup>, Camelia Cristina Diaconu<sup>1,3</sup>,  
Madalina Ilie<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>2</sup>Department of Gastroenterology, Emergency Clinical  
Hospital, Bucharest, Romania

<sup>3</sup>Department of Internal Medicine, Emergency Clinical  
Hospital, Bucharest, Romania

**Background:** The COVID-19 pandemic has a negative impact on the training process of resident physicians. The objective of this study was to evaluate the impact of COVID-19 pandemic on professional training, and also the subjective perception of the level of stress, anxiety and depression among resident doctors specializing in gastroenterology.

**Methods:** We conducted an observational cross-sectional study, for a period of two months, among 180 resident doctors specializing in gastroenterology, working in university hospitals in Romania. A questionnaire consisting of 29 questions distributed through social media platforms was completed in Google Forms. Statistical analyses were performed using IBM SPSS software v.20.

**Results:** A linear relationship was identified between the number of daily hospitalizations in the gastroenterology department and the rate of SARS-CoV-2 infection among resident physicians. 80% of the participants reported an increase in the level of stress, anxiety and depression during the COVID-19 pandemic, and 88.3% stated that they were unsatisfied by online courses.

**Conclusions:** COVID-19 pandemic has negative effects on both professional training and level of stress, anxiety and depression of resident doctors specializing in gastroenterology. Compared to other specialties, there are certain peculiarities, due to the interventional part that this medical specialty involves, such as endoscopic procedures. Thus, the necessity to acquire practical skills in addition to theoretical knowledge increases the negative impact on gastroenterology fellowship.

## ID269 A Protocol Proposal for Delayed Breast Reconstruction after Mastectomy in Patients with Radiotherapy

Andrei-Ludovic Porosnicu<sup>1,2</sup>, Vlad-Petre Atanasescu<sup>1,2</sup>, Stefania-Mihaela Riza<sup>1,2</sup>, Ruxandra-Diana Sinescu<sup>1,2</sup>, Ioana Ghiurco<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Elias Emergency University Hospital, Bucharest, Romania

**Objectives:** The purpose of this study is to develop an algorithm for delayed breast reconstruction after mastectomy based on patients' history of radiation therapy. Thus, the plastic surgeon can choose from the multitude of reconstructive options the one that has the lowest complication rate with the best aesthetic result.

**Methods:** We performed a retrospective, multi-center, analytical study on 67 patients who underwent delayed breast reconstruction after mastectomy. We analyzed the incidence of complications according to the presence of radiotherapy and the chosen reconstructive technique: with alloplastic materials, combined Latissimus Dorsi flap with implant / expander and exclusive autologous tissues breast reconstruction.

**Results:** Of the patients included in this study, 61.2% received radiation therapy before breast reconstruction. In this category, postoperative complications were present in 44% of cases, compared to 27% in patients without radiotherapy. We observed that when combined Latissimus Dorsi and implant or expander technique was performed, no major complications occurred, regardless of the presence or absence of radiotherapy.

**Conclusions:** Although abdominal flaps are currently considered the gold standard for breast reconstruction, we believe that a viable option, especially in patients with radiation therapy, is combined breast reconstruction.

Our proposal for the delayed breast reconstruction algorithm is:

1. If the patient has not had radiotherapy, any reconstructive technique is possible, depending on the patient's wishes or surgeon preferences.
2. If there is a history of radiotherapy associated with skin changes (desquamation, erythema, fibrosis), autologous reconstruction with abdominal flaps is recommended. Mixed reconstruction will be chosen depending on the following factors: contraindications for abdominal flaps, patient consent or surgeon preferences.
3. The pure alloplastic reconstruction for the patient with radiotherapy will be attempted only in selected and carefully monitored cases.

## ID292 MYD88<sup>L265P</sup> Mutation in Waldenström's Macroglobulinemia: Implementation of a Detection Method by PCR-RFLP in the Molecular Biology Laboratory, Center of Hematology and Bone Marrow Transplantation, Fundeni Clinical Institute, Bucharest, Romania

Mihnea-Alexandru Gaman<sup>1,2</sup>, Mihaela Dragomir<sup>3,4</sup>, Silvia Aposteanu<sup>3</sup>, Sorina Nicoleta Badelita<sup>2</sup>, Daniel Coriu<sup>1,2</sup>

<sup>1</sup>Faculty of Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Hematology, Center of Hematology and Bone Marrow Transplantation, Fundeni Clinical Institute, Bucharest, Romania

<sup>3</sup>Laboratory of Molecular Biology, Center of Hematology and Bone Marrow Transplantation, Fundeni Clinical Institute, Bucharest, Romania

<sup>4</sup>Faculty of Biology, University of Bucharest, Bucharest, Romania

**Objective:** Waldenström's Macroglobulinemia (WM) has been associated with the presence of a recurring mutation (L265P) in exon 5 of the myeloid differentiation primary response 88 (MYD88) gene in approximately 90% of cases. We aimed to implement a MYD88<sup>L265P</sup> detection technique in the Molecular Biology Laboratory, Center of Hematology and Bone Marrow Transplantation, Fundeni Clinical Institute, and evaluate its presence in samples collected from WM patients managed in our institution.

**Methods:** A total of 11 peripheral blood (N=9) and/or bone marrow aspirate (N=2) samples were collected from 9 consecutive patients hospitalized in our centre during 2020-2021. Genomic DNA was extracted using a salting-out procedure. DNA quantity and quality were checked using spectrophotometry. Exon 5 of the MYD88 gene was amplified from genomic DNA samples by PCR, followed by restriction fragment length polymorphism analysis (PCR-RFLP). PCR products were digested using the BsiEI restriction enzyme. Digested PCR products were run on 2% agarose gel and evaluated using a documentation analysis system. Amplification of the exon 5 of the MYD88 gene results in the generation of a 489 base pair (bp) product. Mutated MYD88 results in the amplification of 289-bp and 200-bp additional fragments. Written informed consent was obtained from all patients involved. MYD88<sup>L265P</sup>-positive samples were obtained from another institution in our country.

**Results:** Of the 11 samples tested, we detected the presence of MYD88<sup>L265P</sup> in two bone marrow aspiration samples. The corresponding peripheral blood samples collected from these subjects did not exhibit the presence of the aforementioned mutation. MYD88<sup>L265P</sup>-positive samples were obtained from another reference centre in our country and used to confirm the validity of our results.

**Conclusions:** We successfully implemented a MYD88L265P detection technique in the molecular biology laboratory of our institution. We suggest using bone marrow aspiration samples for MYD88<sup>L265P</sup> detection. Peripheral blood samples might be also useful if collected at diagnosis or from patients not yet receiving specific treatment. To our knowledge, this is the first report of MYD88<sup>L265P</sup> detection in WM by PCR-RFLP in Romania.

## ID297 Impact of Diabetes Mellitus on Diastolic Function in Patients with Heart Failure with Preserved Ejection Fraction

Ruxandra Nicoleta Horodinschi<sup>1</sup>,  
Andreea Munteanu<sup>1</sup>, Camelia Diaconu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

**Introduction:** The objective of our study was to evaluate the severity of diastolic dysfunction in patients with heart failure with preserved ejection fraction (HFpEF) and type 2 diabetes mellitus (T2DM) compared to those with HFpEF without DM.

**Material and methods:** This is an observational, prospective, case-control study. We selected 700 patients with heart failure consecutively admitted between March 2019-December 2020. The inclusion criteria were age >18 years, diagnosis of HFpEF, absence of regional left ventricular (LV) motion abnormalities, signed written informed consent to participate in the study. The exclusion criteria were the left ventricle ejection fraction (LVEF)<50%, suboptimal ultrasound view, recent myocardial infarction/unstable angina, type 1 DM, diet-controlled T2DM, psychiatric disorders, coronavirus disease 2019 (COVID-19). After applying the inclusion/exclusion criteria, 105 subjects remained in the study. The patients were divided into two groups, according to the presence of T2DM: group A (39 patients with T2DM, 37.14%), group B (66 patients without T2DM, 62.85%). 2D transthoracic echocardiography was performed in all patients. The study was approved by the Ethics Committee of the hospital. Statistical analysis was performed using R software version 4.0.2.

**Results:** Patients with HFpEF and T2DM had higher LV filling pressures compared to those without DM (OR=5.00, 95%CI:1.77-15.19). Moreover, patients with insulin-requiring T2DM (OR=6.25, 95%CI:1.50-25.98) had higher LV filling pressures than those treated with oral antidiabetic drugs (OR=4.44, 95%CI:1.37-15.17). We demonstrated that patients with T2DM had higher E/e' ratio (difference -2.78, p 0.0003, 95% CI: -4.24 to -1.31) than those without T2DM.

**Conclusions:** Patients with HFpEF and T2DM have higher LV filling pressures than those without T2DM, suggesting that the presence of T2DM leads to a more severe diastolic dysfunction.

## ID320 Left Atrial Function Assessed by 3-Dimensional Echocardiography Is an Independent Predictor for Mortality in Heart Failure with Reduced Ejection Fraction

Hayat Memis<sup>1</sup>, Sorina Mihaila-Baldeas<sup>1</sup>,  
AE. Velcea<sup>1</sup>, A. Andreescu<sup>2</sup>, D. Mihalcea<sup>1</sup>,  
Roxana Rimbas<sup>1</sup>, Dragos Vinereanu<sup>1</sup>

<sup>1</sup>Department of Cardiology, Emergency University Hospital, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Emergency University Hospital, Bucharest, Romania

**Aim:** To assess comparative prognostic value of left heart function and remodeling parameters, by 2DE versus 3DE, in patients with heart failure and reduced ejection fraction (HFrEF).

**Methods:** 142 patients (60±17 years, 91 males), with HFrEF, were assessed by 2DE and 3DE. LV volumes (LVVs) were measured 2DE, and 3DE using dedicated software. Maximal and minimal indexed LAVs were measured 2DE and 3DE. Patients were followed 5 years (57±11 months) after the index event. Primary outcome was mortality. Secondary outcomes were a composite endpoint (CE) of death and hospitalization for heart failure (HHF), and a composite cardiac events end-point (MACE) of death, HHF, myocardial infarction, arrhythmias, or cardiac resynchronization therapy.

**Results:** At 5 years we recorded 52 deaths, 70 CE, 36 HHF, and 73 MACE. At baseline, mean 2DE and 3DE LVEFs were 32±10% and 32±9%.

There was no significant difference between LVVs or LVEF in survivors and non-survivors. There was a significant difference for total and indexed 2D\_LAVmax, 3D\_LAVmax, and 3D\_LAVmin between survivors and non-survivors. Total and indexed 2D\_LAVmax correlated with death, CE, HHF, and MACE (P<0.03). Indexed 3D\_LAVmax, 3D\_LAVmin correlated with death, CE, HHF, MACE (P<0.05).

In a linear multivariate regression model, that included 2DE and 3DE LVEF, indexed 2D and 3D LAV max and min, only indexed 3D\_LAVmin was an independent predictor of death (p<0.001).

By ROC analysis, an indexed LAV of 30 ml/m<sup>2</sup> by 3DE was able to predict death (Sb 94%, Sp 80%, AUC 0.70), CE (Sb 98%, Sp 80%, AUC 0.67), HHF (Sb 96%, Sp 80%, 0.67), and MACE (Sb 93%, Sp 76%, AUC 0.66).

**Conclusion:** LVEF by 2DE and 3DE was unable to predict death in our HFrEF cohort. LAVs, particularly by 3DE, were able to predict cardiac events, suggesting the potential key value of evolving cardiac substrate.

## SURGICAL SPECIALITIES

## ID219 Digital Surgery During SARS-CoV-2 Era

Ion Alexandru Tache<sup>1</sup>, Anca-Andreea Nica<sup>1</sup>,  
Vlad Denis Constantin<sup>1</sup>, Bogdan Socea<sup>1</sup>,  
Alexandru Carap<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

Surgery, alongside the entire medical field, is currently experiencing a new major evolutionary stage, represented by digitalization. The complexity of this process lies in its ability to extend in multiple aspects of the medical practice, resulting a fundamental improvement in the performance and efficacy of health care services. The concept of „digital” involves the use of a wide range of information technologies and machines, including computers, algorithms, artificial intelligence, autonomous robots, and the Internet. The five aspects of medical practice that can be improved through digitalization are: diagnosis, treatment, doctor-patient relationship, professional training process and the relationships between doctors, both intra- and inter-disciplinary.

The COVID-19 pandemic, despite its negative effects, contributed, as a catalyst, to the acceleration of the digitalization process in medicine.

**Objectives:** This study focuses on analyzing the effects and the potential of digitalization concerning the diagnostic stage (screening programs), the doctor-patient relationship and the process of training and educating the surgeons.

**Methods:** Two questionnaires were created. One of them was completed by 70 patients and it included questions that highlighted how they perceived the quality of interaction with the physician during the pandemic, using alternative methods of communication. The other questionnaire was submitted to a number of 65 doctors and consisted of questions that revealed the degree to which they adapted to the pandemic using digital technology.

Within this paper, it is unveiled why screening programs should be developed in the form of websites as well as their required structure.

**Results:** The development of websites for screening programs would increase their effectiveness.

Patients believe that the digital method of communication is better than the classic one.

Doctors have managed to adapt to the pandemic period using digital approaches.

**Conclusion:** Digitalization has great potential to improve current medical practice and it is essential to be exploited.

## ID223 Spontaneous Hematomas in the COVID-19 Era – New Challenges

Danut-Constantin Ciotirla<sup>1</sup>, Radu Mirica<sup>1,2</sup>,  
Andrei Vacarasu<sup>1</sup>, Razvan Iosifescu<sup>1,2</sup>,  
Marius Zamfir<sup>1</sup>, Alina Iorgulescu<sup>1,2</sup>,  
Alexandra Mirica<sup>2,3</sup>, Mara Mardare<sup>1</sup>,  
Niculae Iordache<sup>1,2</sup>, Octav Gingham<sup>1,2</sup>

<sup>1</sup>Clinic of General Surgery, „Sf. Ioan” Emergency  
Clinical Hospital, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

<sup>3</sup>„Grigore Alexandrescu” Emergency Clinical Hospital  
for Children, Bucharest, Romania

**Aim:** Through this study, we aim to evaluate and determine the causes that led to the formation of hematomas, spontaneous bleeding and underline the diagnostic and treatment elements.

**Materials and methods:** The present study is a retrospective one of the Surgery Clinic of „Sf. Ioan” Emergency Clinical Hospital, Bucharest that seeks to evaluate and identify the causes of COVID-positive hematomas in patients who needed surgery. We have therefore evaluated patients who presented various spontaneous hematomas during the COVID-19 pandemic for whom operations were conducted having as a control group (CG) a homogenous group in terms of age, COVID-19 severity and comorbidities with the study group (SG).

**Results:** This study included 27 patients, of whom 12 were in the study group and 15 in the control group. The control group was chosen to correspond to the average age and the division by sex. Regarding the number of hospitalization days, it was observed that they are similar. Given the similar severity of SARS-CoV 2 between the two groups studied, the state at discharge is different between them, in the control group there were no deaths, but in the study group there were 8 deaths. In terms of hemoglobin, it was significantly lower in the study group. Also, the number of leukocytes in the study group was higher than in the control group, but in terms of platelets, they had higher values in the control group compared to the study group, even finding a negative statistical correlation between platelet count and age. No statistically significant correlation was found between the two groups in terms of anticoagulant dose and type of anticoagulation.

**Conclusions:** The hypothesis of anticoagulant overdose is not supported or verified by the present study, so we believe that further thromboelastographic tests are necessary to be able to comprehensively re-evaluate it.

## ID225 Is Colorectal Cancer Surgery a New Challenge in These Troubled Moments?

Radu Mirica<sup>1,2</sup>, Danut-Constantin Ciotirla<sup>1</sup>,  
Andrei Vacarasu<sup>1</sup>, Razvan Iosifescu<sup>1,2</sup>,  
Marius Zamfir<sup>1</sup>, Alina Iorgulescu<sup>1,2</sup>,  
Alexandra Mirica<sup>2,3</sup>, Mara Mardare<sup>1</sup>,  
Niculae Iordache<sup>1,2</sup>, Octav Ginghina<sup>1,2</sup>

<sup>1</sup>Clinic of General Surgery, „Sf. Ioan” Emergency Clinical Hospital, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>„Grigore Alexandrescu” Emergency Clinical Hospital for Children, Bucharest, Romania

**Aim:** The goal of this study was to determine the differences in case difficulties and their management experienced during the SARS-CoV-2 pandemic compared to the preceding time, so that adjustments in the main aspects of treatment for these cases could be made.

**Materials and methods:** The case study of the Surgery Clinic of „Sf. Ioan” Emergency Clinical Hospital, Bucharest was analyzed comparatively between February 2019 - January 2020 and February 2020 - January 2021 (SARS-CoV-2 pandemic period).

**Results:** 423 patients were included in the trial, 119 during the COVID- 19 pandemic and 304 between February 2019 and January 2020. Descriptive statistics show a similar split by gender, area of origin, and hospitalized days. The decade with the maximum incidence is the one between 2019 and 2020. The disparities were in the number of surgeries that resulted in a colostomy, as well as the percentage of advanced-stage cases that occurred during COVID- 19. During the COVID- 19 period, the percentage of cases presenting in emergency was also greater. The number of cases was partially correlated with the incidence of positive COVID-19 cases during this time period.

**Conclusions:** In the management of colorectal cancer patients, the SARS-COV2 pandemic caused a lot of difficulty, but the most important aspect is the fact that patients were presented in much more advanced phases, in emergency room, so that therapeutic options were limited.

## ID230 Scar Revision in the Plastic Surgery Public Services

Ioana Ghiurco<sup>1,2</sup>, Andrei-Ludovic Porosnicu<sup>1,2</sup>,  
Vlad-Petre Atanasescu<sup>1,2</sup>, Stefania-Mihaela  
Riza<sup>1,2</sup>, Vlad Carbutaru<sup>1,3</sup>, Ana-Maria Oproiu<sup>1,3</sup>,  
Ruxandra-Diana Sinescu<sup>1,2</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Elias Emergency University Hospital, Bucharest, Romania

<sup>3</sup>Emergency University Hospital, Bucharest, Romania

**Objectives:** From the desire to improve the way of approaching patients with vicious scars, we aimed through this study to evaluate the patient population that seeks Plastic Surgery for scar revision and the therapeutic approach in the public hospitals in Bucharest.

**Methods:** We realized a multicenter, retrospective, analytical study on a lot of 100 patients who received treatment for vicious scars between 2015-2020. We evaluated the patients included in the database by documentation based on the available clinical observation sheets and surgical protocols, comprising the following variables: patient demographic data, characterization of scars in terms of age, location, cause, type of treatment, and the number of hospitalization days.

**Results:** The average age of the patients in the studied group was 38.6 years, with a slight male preponderance of 52%, and from an urban environment most frequently (66.25%). 39% of the patients had post-traumatic scars; the average duration elapsed from the causative event to the therapeutic intervention was 55.73 months; the most common location was in the head and neck region (47.41%). We noticed that in 85.23% of cases, the surgery involved a single correction method. 42% of the patient population benefited from partial or complete scar excision followed by direct suture, leading to a mean hospital stay of 3.8 days. We found no standardized protocol neither for vicious scar analysis nor in decision-making in the studied lot.

**Conclusions:** Patients living with vicious scars frequently have aesthetic, functional, and pathological repercussions. The young population is more willing to look for improvements in scars, primarily when they are located in visible areas, such as the face and neck. Although there are many treatment suggestions, we lack a national protocol to address these cases in current practice.

## ID277 The Impact of Chronic Kidney Disease on Late Mortality and Long-Term Survival in Patients with Surgical Resected Cardiac Myxomas

Reza Nayyerani<sup>1</sup>, Roxana Carmen Geana<sup>1</sup>, Ion Iovu<sup>1</sup>, Andreea Simina Chibulcutean<sup>1</sup>, Alexandra Elena Cojocaru<sup>1</sup>, Ovidiu Stiru<sup>1,2</sup>, Vlad Anton Iliescu<sup>1,2</sup>

<sup>1</sup>„Prof. Dr. C.C. Iliescu” Emergency Institute for Cardiovascular Diseases, Bucharest, Romania

<sup>2</sup>Department of Cardio-Thoracic Pathology, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania;

**Background and Aim:** Cardiac myxomas are benign and are the most common cardiac tumors. The first line of therapy is surgical resection, with good early results, but there is a paucity of data regarding the long-term outcomes, especially when a significant proportion of these patients have important comorbidities associated. The aim of the study was to analyze predictors for late mortality in this category of patients and to evaluate long-term survival.

**Methods:** We conducted a retrospective study on patients with surgical resected cardiac myxomas in our institute between 2008 and 2019. We used multivariate logistic regression to identify predictors for mortality at five years, and also the Kaplan-Maier and Cox proportion adjusted survival curves to assess the mortality at 5 and 10 years, respectively.

**Results:** 108 patients with surgical resected cardiac myxomas were enrolled in the study (96 being left side myxomas and 12 right-side myxomas). In all cases, the surgical excision was successful, with 25% needing interatrial septum patch repair. Univariate logistic regression identified chronic kidney disease (CKD) as one of the predictors for late mortality. Multivariate analysis revealed CKD as an independent predictor for late mortality (OR = 7.96, 95% CI = 1.469-43.125,  $p = 0.016$ ). The patients with CKD had a mean follow-up of 8.14 $\pm$ 3.805 years and 7.06 $\pm$ 2.909 years for those without CKD. Survival at 5, 10 and 12 years for patients without CKD was 98.7%, 88.8% and 59.2%. For patients with CKD, survival at 12 years was 28.6%. There was no statistical difference in late-term survival between patients with and without CKD in the Cox proportion-adjusted survival curve ( $p = 0.275$ ).

**Conclusions:** Patients with surgical resected cardiac myxomas have a good long-term prognosis. CKD was identified by multivariate logistic regression as an independent predictor for five-year mortality.

## ID284 Screening Criteria for Colorectal Cancer in Patients with Type II Diabetes Mellitus

Alexandra Agache<sup>1,2</sup>, P. Mustatea<sup>1,2</sup>, Andra Birligea<sup>1</sup>, O. Mihalache<sup>1,2</sup>, H. Doran<sup>1,2</sup>, Traian Patrascu<sup>1,2</sup>

<sup>1</sup>Department of Surgery, „Dr. I. Cantacuzino”

Clinical Hospital, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Background:** Colorectal cancer and Diabetes Mellitus represent a major public health issue, first, by the number of new cases which are at an alarming rate. Secondly, by the negative effect over the quality of life, socio-economic status, and lifespan, representing high morbidity and mortality causes. Diabetes Mellitus is the disease of the century with a global prevalence (standardized age) which doubled since 1980 (4.7% to 8.5% in adult population).

Colorectal cancer (CRC) ranks the 3<sup>rd</sup> regarding the global neoplasia incidence (10.2%) and second regarding the mortality (9.5% of all cancer deaths). Colorectal cancer has several peculiarities that make it ideal for screening. Since the end of the 19<sup>th</sup> century, suspicion has been raised that diabetes mellitus is involved, through directly etiological mechanisms, in carcinogenesis. Now, there is stated in the literature, the role of diabetes as an independent risk factor for colorectal cancer. However, despite the existence of numerous experimental evidence, epidemiological studies and meta-analyses, there is currently no adaptation of colorectal cancer screening for these patients.

**Objective:** assessment and definition, using clinical and paraclinical criteria, the profile of the patient with type II diabetes mellitus that should be given an endoscopic examination because diagnosing precursor lesions or even CRC is likely probable.

**Material and method:** Prospective case-control study conducted over a 2-year period including a number of 442 patients presented at „Dr. I. Cantacuzino” Clinical Hospital, asymptomatic, who underwent lower digestive endoscopies; All patients included in the two groups were asymptomatic in terms of digestive sphere disorders or in terms of general manifestations specific for neoplasia. Endoscopic findings of tumors and neoplastic precursor lesions (polyps) have been defined as positive results at colonoscopy. Thus, 52 patients with polyps (26.80%) and 29 patients (14.95%) with tumors in different localizations were found at the level of group 1.

**Results:** In the analyzed group, statistically significant correlations ( $p < 0.05$ ) were recorded between positive colonoscopy results (defined as precursor lesions – polyps- or tumors) and certain clinical characteristics (age, sex, BMI, duration of diabetes, type of antidiabetic treatment) and also paraclinical (reactive C protein and glycated hemoglobin).

**Conclusion:** Criteria of patients with type II diabetes who have the maximum probability of developing colorectal cancer have been outlined and confined in a score risk. Thus, this patient is more likely male, with a BMI > 25, aged over 60 years, with an unbalanced diabetes mellitus counted by HbA1c > 8.5 mg/dL, with over 5 years of diabetes evolution, in treatment with insulin most likely or combined insulin with oral antidiabetics and with an inflammatory biological profile expressed by PCR > 2 mg/dL threshold values.

## PRECLINICAL SPECIALITIES

### ID172 Gremlin-1, CD26 and Hsp27 as Biomarkers for Clinical Expression in Caucasian Patients with Systemic Sclerosis

Paul Balanescu<sup>1</sup>, Anca Balanescu<sup>1</sup>,  
Eugenia Balanescu<sup>1</sup>, Cristian Baicus<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

**Aims:** Systemic sclerosis (Ssc) is a complex autoimmune disease that associates visceral and cutaneous fibrosis with vasculopathy. There are numerous candidate proteomic biomarkers for Ssc clinical expression that were identified in mass-spectrometry studies from biological samples. Nevertheless, independent confirmation and validation studies are needed in order for these biomarkers to become useful in daily clinical practice. Gremlin-1, CD26 and Hsp27 had been previously identified as candidate biomarkers for Ssc. As such, the aim of the study was to confirm circulating Gremlin-1, CD26 and Hsp27 on an independent cohort of Ssc patients.

**Methods:** 53 Ssc patients and 26 gender and age matched healthy controls were included in a case-control study. Serum Gremlin-1, Hsp27 and CD26 were assessed using commercial ELISA kits. Associations between circulatory biomarker expression and clinical Ssc features were evaluated.

**Results:** Serum CD26 were lower in Ssc patients compared to healthy controls ( $p < 0.001$ ). Serum Gremlin-1 levels were higher in Ssc patients ( $p = 0.027$ ). No difference was observed in circulatory Hsp27 levels in Ssc patients and controls. Lower circulatory CD26 levels were associated with telangiectasia ( $p = 0.028$ ), calcinosis ( $p = 0.009$ ), esophageal hypomotility ( $p = 0.001$ ) and pulmonary hypertension ( $p = 0.05$ ). Higher circulatory Gremlin-1 levels had a tendency to associate with calcinosis ( $p = 0.07$ ).

**Conclusion:** Serum Gremlin-1 and CD26 were confirmed as biomarkers for Ssc patients and are future candidate for therapeutic approaches. However, we did not confirm Hsp27 as biomarker for Ssc.

**Acknowledgment:** This work was supported by a grant of the Ministry of Research, Innovation and Digitization, CNCS/CCCDI-UEFISCDI, project number PN-III-P1-1.1-PD-2019-0118, within PNCDI III.

### ID182 Analysis of MicroRNA Changes in Patients with Autoimmune Digestive Diseases - Preliminary Data

Dimitri Apostol<sup>1</sup>, Mirela Maria Iacob<sup>1</sup>,  
Adriana Talangescu<sup>1</sup>, Andreea Mirela Caragea<sup>1</sup>,  
Ion Maruntelu<sup>1</sup>, Maria Tizu<sup>1</sup>, Carmen Preda<sup>1</sup>,  
Secil Omer<sup>1</sup>, Victor Stoica<sup>1</sup>, Mircea Diculescu<sup>1</sup>,  
Ileana Constantinescu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy,  
Bucharest, Romania

**Background:** MicroRNAs suffer quantitative alterations both inside and outside the cells. We set out to prove that these changes can be measured in the sera of inflammatory bowel disease patients (IBD) and they can be correlated with the presence and type of disease - Crohn's Disease (CD) and Ulcerative Colitis (UC).

**Methods:** Total RNA was extracted from the sera of CD patients (14), UC patients (14) and healthy controls (9). CD and UC patients were further stratified by disease activity into active (CD=9, UC=6) and inactive (CD=5, UC=8). During the extraction step, a known quantity of cel-mir-39 was added to act as an exogenous control for subsequent reactions. From each total RNA sample (37), reverse transcription reaction was applied to 7 species of miRNAs (miR-16, miR-21, miR-106a, miR-155, miR199b, miR-598 and cel-mir-39). The complementary DNA species were amplified in triplicate in a Real-time PCR machine. For each sample the average cycle threshold (Ct) values of the 6 human miRNAs were normalized to the average Ct value of the spike-in resulting a reliable  $\Delta Ct$  value for each tracked miRNAs.

**Results:** The values of miR-16, miR-21 and miR-106a are elevated significantly for active CD compared to inactive ( $p = 0.002, 0.048, 0.004$ ), as well as compared to controls ( $p = 0.001, 0.027, 0.004$ ). Comparable results were found for active UC compared to inactive ( $p = 0.006, 0.038, 0.019$ ), but only miR-16 and miR-106a are elevated compared to controls ( $p = 0.001, 0.005$ ). miR-155 and miR-199b did not reveal any significant results and miR-598 is significantly elevated in active CD compared to controls ( $p = 0.011$ ).

**Conclusions:** miR-16, miR-21, miR-106a and miR-598 suffered quantitatively significant alterations in the sera of CD and UC patients, sufficient to differentiate between different forms of disease and controls. Further investigations are required to identify their molecular release pathway and their wide-spread impact on disease evolution.

## ID229 Use of Imipenem for the Rapid Carbapenem Inactivation Method (rCIM) to Further Optimize Results and Costs

Madalina Maria Muntean<sup>1</sup>, Stefan-Decebal Guta<sup>1</sup>, Edgar-Costin Chelaru<sup>1</sup>, Costin Stefan Caracoti<sup>1</sup>, Bogdan-Florin Ciomaga<sup>1</sup>, Andrei-Alexandru Muntean<sup>1</sup>, Mircea Ioan Popa<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Carbapenemase-producing *Enterobacteriales* (CPE) are an increasing problem in health-care, especially in the hospital environment. The rapid Carbapenem Inactivation Method (rCIM) and its derivative (rCIM-A, which was optimised for extended chromosomal cephalosporinase producers) proved to be both fast and efficient in detecting CPEs. Still, issues persist in identifying slow-hydrolysing carbapenemase subtypes (such as OXA-23, -181, -232, -244). In this study, we present a new protocol, rCIM-IPM which further optimises results and lowers costs.

**Methods:** The rCIM and rCIM-A protocols used two disks of meropenem (10 µg) incubated with the suspected carbapenemase producing bacteria, followed by testing the supernatant against a susceptible strain. In this iteration of the protocol (rCIM-IPM), we incubated the bacteria with one disk of imipenem (10 µg) and cloxacillin (400 µg/mL) and compared the results with previous rCIM/rCIM-A. 228 well-characterised carbapenem-resistant strains (of which 88 did not present carbapenemases) were tested.

**Results and discussion:** The new rCIM correctly identified 140/140 carbapenemase producers and 87/88 non-carbapenemase producers, showing a sensitivity of 100 and a specificity of 99%. Of note, rare IMI-producing bacteria require carbapenem induction to consistently test positive. The rCIM-IPM protocol correctly identified even slow-hydrolysing carbapenemase variants, including OXA-23 (n = 8), OXA-181 (n = 11), OXA-232 (n = 5) and OXA-244 (n = 6). The novel MIR variant which we previously reported as testing false-positive, continued to test positive when using imipenem.

**Conclusions:** The rCIM method is rapid, yielding a result in less than 3 hours, which allows for faster diagnosis and control of infected and/or colonized patients. It is also cheaper and more accurate than other CPE detection methods, and can be implemented in low-resource laboratories.

## ID232 Preliminary Results in Testing the Repeated Dose Toxicity of a Candidal Vaccine against SARS-CoV-2

Diana-Larisa Ancuta<sup>1,2</sup>, Fabiola Ionita<sup>1,2</sup>, Cristin Coman<sup>1,3,4</sup>, Madalina Preda<sup>1,5</sup>, Alexandru-Andrei Muntean<sup>1,5</sup>, Cerasella-Cristiana Dragomirescu<sup>1,5</sup>, Mircea-Ioan Popa<sup>1,5</sup>

<sup>1</sup>„Cantacuzino” National Medico-Military Institute for Research and Development, Bucharest, Romania

<sup>2</sup>Faculty of Veterinary Medicine, University of Agronomic Sciences and Veterinary Medicine, Bucharest, Romania

<sup>3</sup>Faculty of Veterinary Medicine, „Spiru Haret” University, Bucharest, Romania

<sup>4</sup>Center of Excellence in Translational Medicine, Fundeni Clinical Institute, Bucharest, Romania

<sup>5</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Introduction:** The current epidemiological situation, at global level, has required finding a quick solution to prevent and control the spread of SARS-CoV-2. Vaccination can be one of the methods that can stop the spread of the virus and in this regard, vaccines have been developed whose safety has been verified by a series of tests. Repeated dose toxicity is a key stage of the preclinical phase.

**Objectives:** The purpose of this study was to observe the toxicity and severity of a SARS-CoV-2 vaccine represented by a combination of peptides specifically recognized by the 2 components of the adaptive immune system, in Sprague Dawley rats, after repeated intranasal administration.

**Methods:** Six groups of animals were created: control group, main group and recovery group. At each of the groups the human dose (1X) and the 10X the human dose was tested. The vaccine was administered four times, every two weeks, and the monitoring period of the animals was 46 days at the main group and another 30 days after the last inoculation to the recovery group. Throughout the study, clinical signs, immunological, biochemical and hematological parameters were followed, and at the end of the experiment, 34 organs were collected to be examined histologically.

**Results:** The clinical evolution in all the groups was favorable, regardless of the dose administered. The body weight showed a constant increase in the 1X group, and in the 10X one, relative to the control group, a statistically significant relevance was observed in the first 49 days, when T had values between 0.002-0.04. The nasal cavities showed no observable macroscopic changes, and the ophthalmoscopic examination showed eye lesions in the eye from which blood samples were collected (<10 animals) and an intraocular pressure of 11.7 – 19.4 mmHg, T = 0.02, in the groups of females 1X and T = 0.004 in males 10X. Body temperature monitored pre - administration, 3 and 6 hours after - vaccine administration, showed normal values.

**Conclusions:** Preliminary results show that the animals were in a good condition, no local incentive reactions or vaccine-related changes were observed in the detection of different toxicological indices. Therefore, the repeated toxicity test of the candidate vaccine against SARS-CoV-2 in rats did not show any obvious

toxic reaction, with the current data to be corroborated with the other tests carried out in the experiment.

Funding source: DECODE Project, contract 11SOL/2020.

## ID272 The Biocompatibility of Iron Oxide-TiO<sub>2</sub> Nanocomposites with Magnetic and Photocatalytic Properties

Christien Oktaviani Matei<sup>1</sup>, Traian Popescu<sup>1</sup>, Ioana Dorina Vlaicu<sup>1</sup>, Tudor Savopol<sup>1</sup>, Mihaela Georgeta Moisescu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Biomedical and environmental applications of low-cost inorganic nanocomposites with magnetic and photocatalytic properties are of high interest. Different size Fe<sub>3</sub>O<sub>4</sub>/γ-Fe<sub>2</sub>O<sub>3</sub> magnetic nanoparticles were used to synthesize nanocomposites (NCs) with TiO<sub>2</sub> at different Fe/Ti ratios. These NCs can be functionalized with photosensitizers, drugs, pollutant-binding agents. Magnetic hyperthermia and semiconductor photodynamic therapy represent cancer therapeutic approaches in which NCs exert direct antitumor activity by generation of heat and reactive oxygen species (ROS) into the tumor. Precondition for using these NCs in human is their lack of toxicity on healthy tissues in condition of no magnetic/light exposure. Our study focused on evaluating the biocompatibility of the NCs on normal human and murine fibroblasts.

**Materials and methods:** The cell viability of murine NIH3T3 and human foreskin HS27 cultures was assessed using NCs of different concentrations and Fe/Ti ratios (synthesized by coprecipitation and characterized by XRD, TEM, EPR). The cells were grown for 24h prior the addition of sterile NCs, and MTS assay was performed after 24h incubation. Viable cells reduce the reagent MTS to the soluble product formazan, whose concentration was photometrically measured (formazan concentration linearly depends on the number of viable cells).

**Results:** The two cell lines responded differently. HS27 kept the viability close to the control up to 150 ug/ml of NCs no matter the Fe/Ti ratios. The NIH3T3 viability showed a slight tendency to decrease with increasing NCs concentrations in a manner depending on Fe/Ti ratio: the higher the ratio, the more pronounced the viability decrease.

**Conclusions:** Fe/Ti oxides NCs with dual properties (with heating effect under exposure to alternating magnetic field and producing ROS under UVA irradiation) were synthesized using an inexpensive and simple method and shown to be nontoxic to human normal cell line. The murine cell line showed higher sensitivity to both NCs concentrations and Fe/Ti ratios.

## ID303 Loss of CD36 Receptor Impairs Adherence and Proliferation of Normal Monocytes

Radu-Marian Marinescu<sup>1</sup>, Nicoleta Constantin<sup>1</sup>, Mihaela Surcel<sup>1</sup>, Gheorghita Isvoranu<sup>1</sup>, Ana-Maria Enciu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Aim:** The purpose of our research was to demonstrate the role of CD36 receptor in the adhesion process of peripheral blood monocytes.

**Material and method:** Normal human monocytes (ATCC CRL-9855) were routinely maintained according to manufacturer's instructions. Cells were treated with Phorbol 12-myristate 13-acetate (PMA Sigma Aldrich P1585), in concentrations of 200 ng/mL, 100 ng/mL, 50 ng/mL, 25 ng/mL, 10 ng/mL, 5 ng/mL and documented using an Evos phase-contrast inverted microscope. For cell adhesion and proliferation we performed real-time impedance readings using RTCA DP platform. Monocytes were edited to knockout CD36 (CRISPR KO kit, Origene), labelled with GFP and sorted (MoFlo Astrios EQ, Cell Sorter - Beckman Coulter).

**Results:** Cell adhesion was studied by time-lapse microscopy for 48 hrs. The lowest concentration of PMA which induced a cell adherence was 25 ng/mL. The adherence and subsequent cell proliferation were measured and compared between different PMA concentrations by impedance readings. Next, we knocked out CD36 using CRISPR editing and studied adhesion and proliferation of edited cells in RTCA DP platform. Real-time analysis indicated that CD36 <sup>-/-</sup> cell adhesion decreased with about 18% compared to control, but this difference disappeared during the next 8 hrs. However, after 12 hrs, CD36 <sup>-/-</sup> KO cells started to detach while the normal cells continued to proliferate.

**Conclusion:** CD36 interferes with the processes of proliferation and adhesion of human monocytes.

**Acknowledgement:** This work has been supported by a grant of the Ministry of Research, Innovation and Digitization, CNCS/CCCDI – UEFISCDI, project number PNIII.P2-2.1-PED-2019-3141, contract no 382/2020, within PNCDI III.

## PHARMACY

ID213 Phytosociology –  
Case Study

Emanuela-Alice Luta<sup>1</sup>, Teodora Deculescu-Ionita<sup>1</sup>, Cerasela Elena Gird<sup>1</sup>

<sup>1</sup>Department of Pharmacognosy, Phytochemistry and Phytotherapy, Faculty of Pharmacy, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** Starting from the premise that phytosociology represents the ability of medicinal plants to adapt in cultures, this study quantifies the biosynthetic capacity of the active principles which belong to medicinal plants that grow in common.

**Material and method:** *Hyperici herba* and *Melissae folium* from the phytosociological and control group were used in our analysis. Flavones, phenolcarboxylic acids- PCAs and total polyphenols content were dosed by spectrophotometric methods for all batches and hypericin for *hyperici herba*. The assessments were made according to *European Pharmacopoeia*.

**Results and discussions:** It was found that *Hypericum perforatum* L. has grown more compared to the control group. From a quantitative chemical point of view, there are notable differences in the content of active substances: 16.61g% PCAs expressed as caffeic acid equivalents for St. John's Wort in the control group, compared with 20.92g% PCAs in the common crop; 4.36 g% flavones expressed as rutoside equivalents for control group, compared to 6.17 g% flavones in the common culture; and 6.79 g% total polyphenols expressed as tannic acid for control batch, compared with 8.15 g% total polyphenols for the batch from common culture. The values read at 590 nm for hypericin were different, the phytosociological group presenting higher values. For the lemon balm group, the results are being evaluated.

**Conclusion:** The association in culture of certain species of medicinal plants, belonging to different botanical families, might be beneficial in accelerating the biosynthesis of certain classes of chemically active constituents.

ID217 Antibacterial and  
Antibiofilm Activity of Selected  
Phytopharmaceutical  
Formulations

Razvan Neagu<sup>1,2</sup>, Cerasela Elena Gird<sup>2</sup>,  
Lucia Elena Ionescu<sup>1</sup>, Viorel Ordeanu<sup>3</sup>

<sup>1</sup>„Cantacuzino” National Military Medical Institute for Research and Development, Bucharest, Romania

<sup>2</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>„Titu Maiorescu” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** Infectious diseases are caused by pathogenic microorganisms that have been and continue to be the leading cause of human morbidity being responsible for approximately 15 million deaths annually. Currently, many bacteria are resistant to several classes of antibiotics (multidrug-resistant bacteria). One of the resistance mechanisms used by bacteria is the formation of biofilm, which is also a mechanism of virulence.

In this work the antibacterial and antibiofilm activity of the following phytopharmaceutical formulations: *Menthae aetheroleum*, *Origanum aetheroleum*, *Rosmarini aetheroleum* were studied.

**Method:** For the tested formulations the rule of 3 decimal dilutions was applied: D0 (solution as such), D1 (1/10 dilution) and D2 (1/100 dilution).

In order to streamline the testing process, miniaturized techniques have been adapted for bacterial cultivation in microplates that can be read automatically, and the consumption of materials is much lower. The cultivation of bacteria in sterile polyethylene microplates means that each row of wells being the miniature equivalent of a stand with classic test tubes.

Representative species for the main groups of pathogenic bacteria were tested: *Staphylococcus aureus* - gram-positive cocci, *Escherichia coli* - gram-negative bacilli, *enterobacteriaceae*, *Pseudomonas aeruginosa* - gram-negative bacilli, non-enterobacteriaceae. Using automatic pipettes, the wells were loaded with culture medium, bacteria and test substances, in microliter quantities, incubated as standard, stained and the result was read semi-automatic with the spectrophotometer.

**Results:** All 3 phytopharmaceutical products tested obtained very good values (>75%) of antibacterial and antibiofilm efficacy on more than one bacterial species.

**Conclusion:** The active principles that give them pharmacological action will be dosed, antibacterial and antibiofilm tests will be repeated and depending on the results obtained, combinations will be tested.

## ID226 Biochemical Research on a Mixture of Vegetal Extracts with Potential Use in the Treatment of Liver Disease

Liliana Costea<sup>1</sup>, Elena Morosan<sup>1</sup>,  
Ana Corina Ionita<sup>1</sup>, Cerasela Elena Gird<sup>1</sup>

<sup>1</sup>Faculty of Pharmacy, „Carol Davila” University of  
Medicine and Pharmacy, Bucharest, Romania

**Objectives:** It is known that liver pathologies involve severe damage to the hepatocyte and also alteration of blood constituents extremely important in the proper functioning of the body. So, taking into account the complex chemical composition of mixtures of vegetal extracts, the aim of the study was to evaluate biochemical specific parameters on experimental animals.

**Method:** The research was performed on male Wistar rats raised in specific laboratory conditions. Wistar rats were selected and randomly distributed on several groups. The control group received 0,9% sodium chloride solution in an oral dose of 10 mL/Kg and the treatment groups received the aqueous extractive solutions in an oral dose of 10 mL/Kg for 14 days. The treatment was done with the aqueous extractive solution in 5% concentration containing a mixture of three vegetal extracts - *Cynarae extractum*, *Taraxaci extractum*, *Chicory extractum* = 1:1:1. Blood glucose, total cholesterol, serum triglycerides, non-protein nitrogenous constituents (uric acid, urea, creatinine) and serum transaminases were determined.

**Results:** Following the research carried out, a decrease of 14,59% in blood glucose was obtained for group I compared to the control group, serum cholesterol has a significant decrease of 34,05% and serum triglycerides also decreased by 13,87% compared to the control group. For non-protein nitrogenous compounds, it was found that the administration of vegetal extracts to laboratory animals leads to a decrease in aminoacidemia, associated with a decrease in aminoaciduria. In terms of transaminase activity, it was shown that it was not influenced by vegetal extracts because they aren't toxic to liver cells.

**Conclusions:** Administration of the mixture of vegetal extracts in rats highlighted the hypoglycemic, hypocholesterolemic and hypolipemic action, demonstrated the antihepatotoxic action of the phyto-complex by inhibiting the generation of toxic compounds and assessed liver function of metabolism and purification, as well as the absence of toxic problems.

## ID377 Synthesis and Toxicity Evaluation of Some New Pyrrole Derivatives with Potential Biological Activity

Beatrice-Cristina Ivan<sup>1</sup>, Florea Dumitrascu<sup>2</sup>,  
Robert Viorel Ancuceanu<sup>3</sup>, Adriana Iuliana  
Anghel<sup>3</sup>, Constantin Draghici<sup>2</sup>, Stefania-Felicia  
Barbuceanu<sup>1</sup>

<sup>1</sup>Department of Organic Chemistry, Faculty of  
Pharmacy, „Carol Davila” University of Medicine and  
Pharmacy, Bucharest, Romania

<sup>2</sup>„Costin D. Nenitescu” Center of Organic Chemistry of  
the Romanian Academy, Bucharest, Romania

<sup>3</sup>Department of Pharmaceutical Botany and Cellular  
Biology, Faculty of Pharmacy, „Carol Davila” University  
of Medicine and Pharmacy, Bucharest, Romania

**Purpose:** The pyrrole is a five-membered heterocyclic compound that play an important role in medicinal chemistry, both in terms of physico-chemical properties and especially for their biological potential. Thus, numerous compounds with pyrrole core have been reported for their antibacterial, antifungal, antitumoral, anti-inflammatory, antihyperlipidemic, antiviral, anticonvulsant properties. It is known that the pyrrole ring occurs in the structure of numerous natural products and drugs. Drug as atorvastatin, ketorolac, indomethacin, tolmetin, sunitinib are pyrrole derivatives [1]. Starting from these literature data, in this study we aimed to synthesize new compounds from the pyrrole class to identify new biological derivatives, more active than those currently existing.

**Material and methods:** The new pyrrole derivatives were obtained by 1-benzyl-5,6-dimethyl-3-cyanomethylbenzimidazolium bromide with acetylene derivatives, in 1,2-epoxybutane, under reflux. The new salt was obtained from corresponding benzimidazole derivative with bromoacetonitrile [2]. The compounds were characterized by their solubility, melting point and spectral techniques (IR and NMR spectra). The toxicity of compounds was evaluated on crustacean *Artemia franciscana* Kellogg, at concentrations between 60  $\mu$ M and 1000  $\mu$ M, in 1% DMSO.

**Results:** New 2-cyano-1-((2-benzylamino-4,5-dimethyl)phenyl)-pyrrole derivatives 4-substituted or 3,4-disubstituted have been synthesized with good yields. The characteristic absorption bands from IR spectra and the protons and carbons signals from <sup>1</sup>H-NMR and <sup>13</sup>C-NMR spectra confirmed the structures of new pyrroles. The toxicity of the new compounds on *Artemia franciscana* Kellogg was almost null for salt and two pyrrole derivatives and limited for the pyrrole having a carboxymethyl group, as evaluated at 24 hours. At 48 hours, the salt and the pyrrole with a carboxymethyl group manifested low but detectable toxicity on nauplii of *Artemia* and for the other derivatives the toxicity was null or quasi-null.

**Conclusions:** We synthesized, characterized, and tested for their toxicity new compounds from pyrrole class. The *Artemia* test indicated that their toxicity was null or negligible.

## DENTAL MEDICINE

## ID216 The Promising Antioxidative Role of Lutein-Loaded Nanoparticles in Oral Squamous Cell Carcinoma

Iulia-Ioana Stanescu-Spinu<sup>1</sup>, Alexandra Ripszky Totan<sup>1</sup>, Daniela Miricescu<sup>1</sup>, Dan Alexandru Enasescu<sup>1</sup>, Maria Greabu

<sup>1</sup>Department of Biochemistry, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Oral cancer is one of the most frequent types of cancer, standing for approximately 9% of all types of malignancies world-wide. At the same time, squamous cell carcinomas (OSCC) represent almost 95% of all oral cancers. OSCC patients' mortality is predominantly caused by local recurrency and regional spreading after surgical treatment failure at the primary site. The main aim of this research was to review and analyse the effects of lutein and poly(D,L-lactide-co-glycolide) (PLGA) nanoparticles containing lutein (Lut Nps) on oxidative stress biomarkers (OXSR-1, FOXO-3, TAC) and collagen degradation biomarker MMP-9 in oral mucosa squamous carcinoma cells.

**Method:** Lut Nps were prepared by the emulsion-solvent evaporation method. MMP, OXSR-1, TAC, FOXO-3 and MMP-9 were measured in tumor cell lysates using the ELISA technique. The results were statistically analysed using the IBM SPSS Statistics 25, Microsoft Office Excel/Word 2013. The post hoc tests of Games–Howell/Dunn–Bonferroni were performed in order to detail the obtained results in the testing of the quantitative variables. A p-value less than 0.05 was considered significant.

**Results:** The results of our study revealed that in Lut 100 cells and Lut Nps the OXSR1 ( $p < 0.001$ ,  $p < 0.001$ ) and TAC ( $p < 0.001$ ,  $p < 0.001$ ) levels were significantly increased versus the control cells. On the other hand, the Lut 100 and Lut Nps FOXO-3 levels showed no significant difference compared to the control. MMP-9 levels were significantly lower ( $p < 0.001$ ) in the Lut Nps cells than in control cells.

**Conclusions:** Lutein and lutein Nps did not trigger an oxidative stress by ROS induction in our study's conditions. Moreover, lutein Nps treatment seemed to have a positive effect by downregulating the MMP-9 levels.

## ID254 Focus on the Genetic Make-Up Impact on Dental Health

Andreea Moldoveanu<sup>1</sup>, George Gabriel Moldoveanu<sup>2</sup>, Emilia Severin<sup>3</sup>

<sup>1</sup>Department of Preventive Dentistry, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Anaesthesiology and Intensive Care, „C.I. Parhon” National Institute of Endocrinology, Bucharest, Romania

<sup>3</sup>Department of Genetics, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Oral health is a determinant factor for quality of life across the life course; it is essential to general health and well-being and greatly influences quality of life (WHO fact sheet on oral health, 2012). How genetics impacts on oral and dental health has not often been studied. Our study aimed to study the impact of genetic makeup on oral health in general and orthodontic population.

**Methods:** To collect evidence that genetic makeup plays a key role in oral health an electronic literature search was conducted using different medical databases. Twin and family cases who attended university dental clinic were assessed for both genetics and behavioral factors. Clinical and radiographical assessments were performed, followed by detailed investigation into the personal and family medical history of the orthodontic patient

**Results:** Various oro-dental abnormalities were noted among orthodontic patients. The most common abnormality was hypodontia followed by dental and skeletal malrelationship. Twin pairs were discordant for dental anomalies. Family studies revealed different patterns of developmental anomalies affecting number and shape of teeth. Oro-dental anomalies (determined by genetic background) were the cause of oral health problems.

### Conclusions:

1. Evidence for genetic influence on an oro-dental trait is supported by family studies.

2. Each oro-dental phenotype was determined by its genetic makeup.

3. For families in which a disease-causing mutation is identified, relatives should be offered predictive genetic testing and then clinically evaluated if they are found to possess the mutation.

### ID328 Beta-Tricalcium Phosphate and Platelet-Rich Fibrin in Maxillary Postextractional Defects: a Micro-CT Evaluation

Claudiu Calin<sup>1</sup>, Anca Coricovac<sup>1</sup>, Andrei Mihai<sup>1</sup>, Andreea Didilescu<sup>1</sup>

<sup>1</sup>„Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objective:** Because the application of beta-tricalcium phosphate ( $\beta$ -TCP) and platelet-rich fibrin (PRF) was not investigated in postextractional intraosseous defects of the rabbit maxilla, the objective of this study was to analyze through means of micro-computed tomography (micro-CT) the healing of the bone tissue inside the alveolus, with respect to newly-formed bone tissue, residual granules of the biomaterial, specific bone density, trabecular bone thickness and trabecular number; also, the eligibility of this experimental model in relation with this type of intervention was evaluated.

**Materials and methods:** Six New-Zealand rabbits were used in this study. The osseous defects were created by extracting the first premolar. Each defect was filled with either  $\beta$ -TCP alone (control) or  $\beta$ -TCP + PRF (test). All animals were sacrificed on the 8<sup>th</sup> postoperative week. The maxillas were removed, the specimens were fixed in 10% formaldehyde and sent to EA2496 Orofacial Pathologies, Imaging and Biotherapies Laboratory from the Faculty of Dental Surgery, University Paris Descartes, Montrouge, France for micro-CT analysis.

**Results:** All specimens completed the study without complications and with a 100% survival rate. The application of the above-mentioned biomaterials led to statistically significant differences favoring the test material with respect to newly-formed bone tissue ( $40,49 \pm 1,36\%$  vs.  $29,31 \pm 6,92\%$ ), specific bone density ( $8,14 \pm 0,67 \text{ mm}^{-1}$  vs.  $5,75 \pm 0,72 \text{ mm}^{-1}$ ) and trabecular number ( $2,26 \pm 0,14 \text{ mm}^{-1}$  vs.  $1,34 \pm 0,40 \text{ mm}^{-1}$ ).

**Conclusions:**  $\beta$ -TCP + PRF is a compatible biomaterial capable of sustaining bone healing in the postextractional alveolus and favourably altering bone density and trabecular number. The rabbit represents a viable experimental model for this type of research.

### ID336 A Correlation Study Applied to Biochemical Biomarkers of Inflammation, Oxidative Stress and Extracellular Matrix Degradation in Human Dental Pulp

Konstantina Kritikou<sup>1</sup>, Alexandra Ripszky Totan<sup>1</sup>, Marina Imre<sup>2</sup>, Tudor Spinu<sup>3</sup>, Mihaela Tanase<sup>4</sup>, Maria Greabu<sup>1</sup>

<sup>1</sup>Department of Biochemistry, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Department of Complete Denture, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Department of Fixed Prosthodontics and Occlusion, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>4</sup>Department of Paediatric Dentistry, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

**Objectives:** Dental pulp is a loose connective tissue with origin in the dental papilla, capable of responding actively and dynamically to numerous stimuli of different nature, like bacteria. Considering its nutritional roles, pulp is a site of numerous metabolic processes and acts as an alarm system for the tooth. The vitality of the pulp complex, both during health and after injury, depends on pulp cell activity and the signaling processes that regulate the cell's behavior. Metabolites from cariogenic bacteria induce inflammation which activates other pathological processes. The aim of our study was to analyze the existence of correlations between a biomarker of inflammation (TNF- $\alpha$ ) and biomarkers of oxidative stress (SOD3), bone metabolism (osteocalcin) and extracellular matrix degradation (MMP-7), in human dental pulp.

**Method:** Our study included 6-18 years old school-children. Healthy and inflamed dental pulps were collected, prepared, and analysed for the mentioned biomarkers in lysates using ELISA technique. Statistical analysis of the results was performed using BM SPSS Statistics 25 and Microsoft Office Excel/Word 2013. The correlations were made using the Pearson's coefficient. A statistical value of  $p < 0.05$  was considered significant.

**Results:** Our results showed a significant and a high degree positive correlation between TNF- $\alpha$ , MMP-7, SOD3 and osteocalcin ( $p = 0.002$ ,  $R = 0.456$ / $p < 0.001$ ,  $R = 0.767$ / $p < 0.001$ ,  $R = 0.558$ ), indicating that high TNF- $\alpha$  levels can be associated with high MMP-7, SOD3 and osteocalcin levels. The results argue for the involvement of inflammation, oxidative stress, extracellular matrix degradation in both, physiological and pathological conditions in human dental pulp. The close interplay of these processes creates a vicious cycle that promotes the pathogenesis in human dental pulp.

**Conclusions:** Our study confirms that the studied biomarkers may represent new tools for new ap-

proaches in pathological processes in human dental pulp. More key interplayed molecules and targets are expected to be discovered in future studies.

## ID355 Evaluation of Anxiety Levels Induced by Invasive and Non-Invasive Treatments in Children

Raluca-Paula Vacaru<sup>1,2</sup>, Andreea Cristiana Didilescu<sup>1</sup>, Mihaela Tanase<sup>2</sup>, Aneta Munteanu<sup>2</sup>, Ioana Andreea Stanciu<sup>2</sup>, Hendrik Simon Brand<sup>3</sup>

<sup>1</sup>Division of Embriology, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>2</sup>Division of Paediatric Dentistry, Faculty of Dental Medicine, „Carol Davila” University of Medicine and Pharmacy, Bucharest, Romania

<sup>3</sup>Division of Oral Biochemistry, Academic Centre for Dentistry Amsterdam (ACTA), Amsterdam, Netherlands

**Objective:** The aim of the study was to evaluate and compare the anxiety level induced by two dental treatments in children: non-invasive (dental prophylaxis) and invasive procedures (cavity preparation).

**Methods:** This pre-post study was conducted on a sample of 16 children (mean age:  $8.55 \pm 2.08$  years old, range 6 to 13), divided into two treatment groups: prophylaxis (PR,  $n=8$ ) and cavity preparation (CP,  $n=8$ ). Unstimulated whole saliva was collected before and after treatment, between 8-11 AM, prior eating, drinking and tooth brushing. Alpha amylase levels were measured. Anxiety levels were assessed using the State Trait Anxiety Inventory for Children test, which evaluates state anxiety (STAIC-S) and trait anxiety (STAIC-T). Normalized T-scores were considered. Data distributions were expressed as means and standard deviations (SD). Intra- and intergroup comparisons were done using the Student t-test. A p-value of 0.05 was considered statistically significant. Statistical analysis was performed using Stata/IC 16 (StataCorp) programme.

**Results:** Although mean salivary alpha amylase levels did not differ significantly between groups, higher values were obtained after (PR= $59.18 \pm 49.44$  U/ml; CP= $77.33 \pm 50.72$  U/ml) than before interventions (PR= $51.39 \pm 44.27$  U/ml; CP= $58.46 \pm 57.18$  U/ml). Higher mean STAIC-S scores were registered for children undergoing cavity preparation, than those from prophylaxis group (PR= $49.09 \pm 6.15$ ; CP= $50.77 \pm 9.12$ ), while STAIC-T scores were higher for PR group (PR= $52.50 \pm 8.50$ ; CP= $46.02 \pm 9.36$ ).

**Conclusions:** Invasive dental treatments induced a higher anxiety level in children. Larger samples are required for further assessments.

**Acknowledgement:** This work was financially supported by “Carol Davila” University of Medicine and Pharmacy through Contract no. 23PFE/17.10.2018 funded by the Ministry of Research and Innovation within PNCDI III, Program 1 – Development of the National RD system, Subprogram 1.2 – Institutional Performance – RDI excellence funding projects.



