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Abstracts

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HISTORY OF MEDICINE

H1. Three scientist who shed light on the development of surgery and three tragic endings

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Introduction. Throughout history, the relationship between science and religion has been tense and were also built a barrier in front of the scientific research. Today, I will talk about three scientists who shed light on the development of surgery with their scientific research and had a tragic endings. Andreas Vesalius (1514–1564) is a founder of modern anatomy. He revolutionized the teaching of anatomy and methods of dissection, transforming anatomy into a modern observational science. Horace Wells (1815–1848) a dentist in Hartford, Connecticut, first used nitrous oxide in dentistry in December 1844. Ignaz Philipp Semmelwe (1818-1865) was a Hungarian obstetrician who discovered the cause of puerperal fever and his work was validated by the adoption of the germ theory. *Method.* The study was prepared by scanning the scientific articles about 3 scientists. *Results.* The story of these scientists who have made significant contributions to the medical profession and surgical science with their inventions in their own age shows the importance of being tolerant, questioning, and innovative despite conservatism, bigotry, jealousy and prejudice. *Conclusion.* If we can safely perform the most difficult and complex operations today, we owe it to the development of science and technology. This development of surgery has been accompanied by anesthesia, asepsis - antisepsis, infection control, anatomy, surgical training and technological development. The problems experienced by the scientists who have contributed almost all these steps are full of indicators of the serious struggle of science against bigotry and conservatism.

H2. History of radiotherapy in the world

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Three important discoveries made a century ago are of great importance for human beings in medicine. Wilhelm Conrad Roentgen observed an interesting phenomenon in 1895 was called the “X-ray”, which was later called Roentgen rays, referring to Roentgen’s invention. The second important discovery came in 1896 when Antoine Henri Becquerel from France worked on uranium salts and discovered natural radioactivity in March 1896. The third important discovery was that in 1898, Pierre and Marie Curie invented the radioactive substances Polonium and Radium. The first field of application of X-rays was diagnostic and gained priority, especially

during the war. The biological effects that arose when used for diagnostic purposes, with the destructive effects of X-rays on the skin and tissues, attracted the attention of scientists and they began to use radium in dermatology.. The first brachytherapy trials started with radium and records of that period show us Walsh (1897) from England, Albers-Schönberg (1903) from Germany and Belot (1904) from France. In the following years, the physical properties of photons (X-rays and gamma rays), particular radiation (electrons) and natural radioactive materials and radioisotopes were studied better. The application times, total dose, fractionation, side effects and technical development of the beam producing devices were concentrated in the first quarter of the 20th century. The biological effects of the applications were started to be examined under the Department of Radiobiology. Radiation treatments with remote-controlled Cobalt 60 devices began in the 1950s and formed the basis for today's advanced radiotherapy applications. After the 1980s, more sophisticated treatments were possible with particle accelerator linear accelerators and previously made 2-dimensional treatment planning was replaced by 3-dimensional conformal planning using special computer software. In the 2000s, high-tech radiotherapy devices, such as intensity-modulated radiotherapy (IMRT), stereotaxic radiosurgery, volumetric arc therapy, and tomotherapy, were introduced and the reduction of side effects due to radiation led to more effective tumor control.

H3. Malariotherapy at the “Socola” Medical School in Iasi (Romania)

Dana Baran

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Intense hyperthermia seemingly ameliorated various illnesses either specifically or nonspecifically. Fever and hot baths were considered by medicine in ancient Egypt, Greece and Rome, Hippocrates and Galen outlined the positive impact of high body temperature on psychoses, whereas modern times brought about pyretotherapy again. In 1848, Koster analyzed the high fever influence on mentally ill patients, suggesting the foundation of an asylum in a region intermittent fever haunted. Trousseau, Dieulafoy, Cooper and Bauer recommended pyretotherapy against Sydenham chorea. In 1876, Rosenblum (Odessa) claimed that recurrent fever could stop progressive general paralysis evolution. Revulsive seton- and particularly terebentine-induced “fixation abscesses” (Fochier, 1891) helped cure epidemic encephalitis, in 1918. Sulphurized oil (1%) injection-determined nonspecific hyperpyrexia had good outcomes in endogenous psychoses and dermatologic diseases. Wagner-Jauregg rediscovered this principle (1886), introduced malaria inoculation into clinical practice (1917) and won the Nobel Prize in Medicine (1927). Impaludation was performed for treating neurosyphilis. In 1927, professors Constantin Parhon, Leon Ballif and Mihai Ciuca implemented malariotherapy at the “Socola” Hospital in Iasi (Romania). Trained at Oxford and Cambridge with Sherrington, Langley and Adrian, Ballif was a reputed neurophysiologist and psychiatrist. A League of Nations Health

Committee (today World Health Organization) expert malariologist, Ciuca directed the “Socola” Malariotherapy Service, the second internationally acknowledged center for paludotherapy, after Horton. Elevated fever (40-42 °C) probably nonspecifically inactivated *Treponema pallidum* generating a complex neuro-immuno-endocrine defense and repair reaction of the body, since high frequency electric currents, beer yeast (Urechia’s modified method), sulphur and its derivatives yielded comparable results. Before being abandoned, paludotherapy was combined with bismuth salt solutions and/or penicillin. Concurrently, the “Socola” impaludation team identified new plasmodium strains and efficiently collaborated with the Horton Mental Hospital (Great Britain). Wagner-Jauregg and Percy George Shute frequently visited the “Socola” Malariotherapy-Malariology Center that in the long run also enabled malaria eradication in Romania.

H4. A chronobiological perspective on modern medicine

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Since the dawn of civilisations, biological phenomena expressed a temporal order. From astromythology, humankind passed on to cosmobiology and chronoastrobiology. Critically and comparatively investigating the history of mankind it results that natural clocks – planet movement, timekeeping gears of vegetable and animal living things - inspired artificial timers comprising sun dials, sandglasses, water clocks, mechanical, electric and finally electronic timing systems able to measure duration and programme everyday activities. Concurrently the healing art and particularly its traditional therapies have been tightly correlated with the temporal dimension not only of the human body and its psychosomatic behaviour, but with that of the surrounding world, too. Contemporary medicine and biology reconsider temporal morphogenetic and functional patterns, interpreting life processes as highly sophisticated clockworks, liable to biomathematical modelling, simulation and quantification. Since the XXth century, chronobiology and chronomedicine have opened a vast theoretical and applicative field of interest, outlined by the Nobel Prize in Medicine awarded in 2017 to Michael Young, Michael Rosbash and Jeffrey Hall, the discoverers of the cell clock molecular mechanisms controlling circadian rhythms. Associated to present day global warming and electromagnetic stress, disrupted rhythms supposedly alter the clocks, including strange attractors of the body, perturbing biological oscillators that control redox balances, microbiota (second genome) dynamics, defence mechanisms. Relationships regulating redox clocks (“redoxome”), microbiome and inflammasome cycles seem relevant, as previously also noticed in our animal experimentations. In humans, mental conditioning would certainly improve adaptive behavioural patterns since mind control can be instrumental in better coping with enduring environmental challenges, potentiating eichronism and allochronism, while reducing dyschronism rate. Desynchronisation

and compensatory phenomena affecting biological clocks, their seasonal modulation, equally impact modern medicine that reinterprets its ancient time cues. From a bioethical standpoint this is also why the European Commission proposed to Member States to stop the bi-annual clock changes (2019).

BIOLOGY - GENETICS

BG1. Old family trees in documents preserved by the Library of the Romanian Academy

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Introduction: Today medical genetics uses family trees (pedigrees) to analyze the recurrence risk of diseases. But genealogy has interested men for a long time. Specific features, like facial characteristics, as well as severe illnesses, like milia, have been the subject of examination, debate and in some cases even constant concern. People struggled to understand how to avoid the inheritance of unwanted patterns and how to achieve the transmission to the next generations of other, this time desired, features. The aim of this study is to present and analyze family trees represented in documents that are preserved in the Library of the Romanian Academy. *Method:* Authentic manuscripts were depicted in which noblemen families like those of Callimachi and Craiovestii have their family trees graphically represented in the 19th century or previously. The search for documents containing family trees was done by exploring the Digital Library of Bucharest. *Results:* Opposite to what is a custom today in medical genetics, the old family trees used to show the ancestors at the base of the diagram, like for example the solid tree trunk, and the descendants higher above, as the numerous branches. Sometimes family trees were drawn to better explain the relationships between different relatives, to make the narrative texts easier to comprehend by readers. The year of birth and/or the year of death are often specified, showing how some members of the families died young (2 years of age), while others lived a long life (80 years old). These data suggest indirectly the interest shown to longevity and health. *Conclusion:* Investigating preserved documents one can conclude that the old noblemen families who lived in Romania were interested in their family history, learning from it how to live longer and better.

BG2. Epigenetic mechanisms prove the need to early educate healthy lifestyles

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Introduction: In the last years, epigenetic mechanisms have been relentlessly explored, and their connection to disease has been proven by a vast amount of studies. These studies guided researchers to also study the relationship between the state of health, respectively various conditions that create this optimal body functioning, and the molecular mechanisms that lay the

groundwork for it. Because of the societal and personal burden caused by diseases, prevention has to be a key issue to focus on in the following years. Day by day events and experiences reveal the necessity to teach the general population and especially children, and therefore their parents, what general rules govern healthy living. Making them understand a few principals of a healthy lifestyle, creating changes in their behavior, a ripple can be created, more people adhering to habits that are a premise to sane longevity. The objective of the present study is to bring into attention the epigenetic mechanisms that have been proven to underlie a state of well-being or health. *Method:* Articles published in the last 10 years were reviewed and the only search engine used was PubMed. The most relevant information from human studies was analyzed. The different epigenetic mechanisms considered were: DNA methylation, histone modifications, chromatin remodeling and small RNA interference. In the selected papers the lifestyle domains investigated comprised nutrition, physical activity, circadian rhythm, behavioral patterns, psychological ort and toxic environment. *Results:* Although some epigenetic modifications (like genomic imprinting) have to be unchanged over the whole life, others (like histone acetylation) can be modified depending on the presence of different factors acting in the external or internal environment of the human body. Studies are ongoing, but core mechanisms have already been deciphered and they are justifying the need for intervention to prevent illness. *Conclusion:* Epigenetic mechanisms intervene in supporting health.

PSYCHIATRY

P1. The excess of testosterone in children – the cause of an aggressive behavior

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Motto: Violence disfigures the human condition (by Costel Zagan)

We all want a society in which our children grow up safe, free from all things and situations that can affect their development. But what do we do when some of these children suddenly change their behaviour to become more aggressive, no interest in learning, and always wanting to enter into conflict. This situation has been unfortunately happening more and more often in recent years. We see on TV news with pupils who have struggled with each other or who verbally and even physically assaulted the teachers. It is very serious. That is why aggression is seen as a social problem for which a solution is expected. The scientific study of the causes of violence as well as the means to reduce their prevalence is of major importance in a world characterized by an increase in aggression both at interpersonal and international level. Aggressive behavior has long been studied by many who have tried to find the causes and even prevent the various states that cause these excesses of aggression. Why is this happening? I believe that this sudden change in the behaviour of some children is based on a medical cause, namely the increase of testosterone levels in boys beyond the maximum admitted limits. What is gratifying is the fact that if the biochemical analysis is carried out, one can be treated to improve the child's health. This is certainly possible, but only through close collaboration between parents, teachers, school counsellors and doctors. The research that we made was carried out in city of Constanta and Mangalia from Romania for children who show aggressive behaviour as well as school insuccess but which are in the hands of school psychologists. The research took place between September 2018 and February 2019. The lot is represented by pupils of which all belong to the male gender. I mention that 20 subjects show aggressive behaviour and the other 20 subjects represent the control group of pupils with normal behaviour.

P2. Neuronal identification in rat hippocampal formation – morphological changes in schizophrenia

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Schizophrenia is a complex psychiatric long-term mental disorder characterized by abnormal behavior, leading to faulty perception, inappropriate actions and feelings, withdrawal from reality and personal relationships into fantasy and delusion, and a sense of mental fragmentation. Available therapies are not able to treat all the symptoms, and lead to strong side effects. There is a theory called neuroontogenetic theory that explains the appearance of disease events during intrauterine period. In this relation, numerous animal models have been generated to clarify the pathophysiology of this disorder. Prenatal ort in rats used in the present study simulates many of the cognitive and sensory deficits manifest by the disease. This model presents neuronal remodeling and abnormalities in spine stability. It is well known that the loss of dendritic spines and stability of synapses are strongly associated with schizophrenia. Our morphological analysis of rat brain fragments does not reveal remarkable changes in the cytoarchitectonic of the rat hippocampal formation, but there are changes in the expression of neurotrophic factors in schizophrenia. Deviations in the expression of these factors, and their receptors during embryogenesis, could influence the functional neuronal synapses so these violations could be manifested at a later stage, in mature nervous system. By understanding these changes, pharmacological treatments can be designed to target specific neural systems to qualify neuronal remodeling and associated behavioral deficits.

FAMILY MEDICINE

FM1. Survey regarding the integration of vaccination in community pharmacies

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Introduction: Immunization is one of the most successful intervention in health worldwide, and one of the most effective way to save lives and prevent infectious diseases. Due to The Expanded Programme on Immunization, launched by World Health Organization (WHO) in 1974, vaccination against six diseases (tuberculosis, diphtheria, tetanus, pertussis, polio and measles) prevented millions of deaths and disabilities. As a result of the concentrated efforts from worldwide health organizations, relevant national institutions, rigorous scientific research and awareness-raising programs to disseminate the benefits of immunization to the population, the global level of vaccination has evolved, but the desired thresholds have not yet been reached in immunization programs. Pharmacists are trusted healthcare professionals and community pharmacies are an important setting for patients who need help for their health issues. Administration of vaccines in community pharmacies represents a highly effective public health strategy which improves the existing services of immunization. This strategy is already authorized in several countries, among which Argentina, Australia, Philippines, South Africa, New Zealand, UK and USA, Switzerland etc. The first vaccine that was authorized to be administered in pharmacies was the influenza vaccine. Since then, others vaccines from national schedules were allowed to be administered by pharmacists. This practice needs special requirements like: pharmacist training, management of vaccination records and specifications on premises, equipment and waste management. *Methods:* To conduct this survey we have analyzed the related work in this field, existing guidelines for vaccination procedures and the laws from different countries regarding the vaccination. *Results:* As a result of the research, we have identified many cases where countries adopted this strategy and reported significant increases in immunization rates. *Conclusion:* The implementation of national vaccination plans is a major public health issue which could be improved by integration of immunization programs into daily routine of pharmacy services.

FM3. The sexual life quality of pregnant and factors influencing the sexual life quality of pregnant

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Background: Pregnancy is an important period which leads physiological and psychological changes. During the pregnancy, body changes, sociocultural factors, religion beliefs, fears and myths influence the sexual life quality of pregnant. *Purpose:* This study aims to identify the sexual life quality of pregnant and determine the factors influencing the sexual life quality of pregnant in Near East University Hospital in Cyprus. *Method:* The population of this study is limited to 231 pregnant who applied to the Near East University Hospital. In this study, the sexual quality of life-female (SQOL-F) is used to collect primary data. The questionnaire is constructed by 29 questions. This questionnaire is developed by Symonds, Boolell and Quirk (2005). *Results:* The study reveals that 45,03% of the pregnant are 26-30 years old, 57,31% of them education level is undergraduate, 51,46% of them are employed, the majority of nationality of them (60,82%) are T.C. The most of them in the study are married (97.66%), 91,81% of them are date before their marriages. In this study, 41,52% of them are in their 2-5 years marriage, 35,09% of them relationship duration is between 2 and 5 years. 51,46% of them are been pregnant within the first year of their marriage, 24,49% of them are in first trimester, 31,58% of them are in second trimester, 40,94% of them are in third trimester. The average score of the sexual quality of life-female index before the pregnancy is $86,28 \pm 14.55$ while during the pregnancy the average score is $81,59 \pm 15.95$. In this study, the sexual life quality of pregnant relatively reduces in the pregnancy period. *Conclusions:* In line with the findings, couples are advised to get information about the impact of pregnancy on the sexual life quality.

INTERNAL MEDICINE

IM1. Management of hyperalgesic sciatica in patients with glucose-6-phosphate dehydrogenase deficiency

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Introduction: Glucose-6-phosphate dehydrogenase (G6PD) deficiency is a X-linked recessive disorder and the most common enzyme deficiency in humans. Exposure to certain exogenous stimuli such as drugs, infections and foods in these patients may lead to hemolytic episodes which typically begin 24 to 72 hours after exposure. **Case presentation.** A 60-year old male patient diagnosed with G6PD deficiency after a hemolytic episode caused by the administration of a non-steroidal anti-inflammatory drug, with no significant medical history, was admitted for pain and paresthesia in the left lower limb that started 2 days prior and gradually worsened. On physical examination, the patient was cardio-pulmonary stable, with a blood pressure of 130/70 mm Hg and a heart rate of 73 bpm. Peripheral pulse was palpable, Giordano maneuver was negative and Lasegue maneuver was positive in the left lower limb. Lab tests were within normal range, the abdominal ultrasound and Doppler ultrasonography of the lower extremities did not show any abnormalities. The magnetic resonance imaging of the lumbar spine demonstrated a single level lumbar disc herniation which occurred at the L4-L5 disc space. The patient was administered gabapentin and was referred to a neurosurgeon for further investigations. **Conclusions:** Glucose-6-phosphate dehydrogenase deficiency is a genetic disorder that occurs almost exclusively in males, causing premature breakdown of red blood cells. The peculiarity of this case lays in the difficulty of choosing analgesic medication considering the risk and the history of hemolysis caused by drug administration in this patient.

IM2. Challenging sinusitis

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Introduction: Sinusitis is one of the most seen disease in medical practice. Here, we represent a rarely seen sinusitis case with its clinical presentation and diagnosis. **Case report:** a 71 years old

patient was admitted to our clinic with a chief complaint of head ache and hearing loss. Due to his physical examination both of his ears were applied ventilation tubes, nasal cavity was obstructed by mucopurulent discharge, oropharyngeal area was normal. Previously the patient had been diagnosed as sensorineural hearing loss and given IV steroids. After this episode the patient had been referred to a neurologist. Neurologist recommended otorhinolaryngology follow up. We repeated his hearing tests and he only had conductive hearing loss not a sudden onset sensory neural hearing loss. Ventilation tubes were in their normal place but I could not understand why they were applied. I recommended him two weeks of levofloxacin 500 mg once per day per orally. He finished the regiment but there was no improvement in his medical situation. The after a Magnetic Resonance Imaging study of the paranasal sinuses was asked. Sinuses were totally infected that's what we call pansinusitis. Functional sinus surgery and balloon tuboplasty were planned and applied to the patient. After the operation no progression in his medical status was recognized. The patient referred to infectious diseases specialist with a nasal swap specimen to obtain microbiological data of the sinuses. The sinus infection resulted as aspergillus fumigatus. Fluconazol 150mg twice a week prescribed. After the first dose of the tablets patient relieved from his headaches. Clinical improvement after the treatment was obvious. *Conclusion:* Allergic fungal sinusitis recognized in early 80's mostly due to sick building syndrome's mold formation density. Allergic fungal sinus impairment can involve the bronchial area and cause hypersensitivity of the respiratory tract too. Aspergillosis species can lead to a chronic sinus infection resistant to classical treatment modalities and may need to be removed by surgical approach. Immunocompromised patients have a tendency to grow fungal sinusitis. Aspergillus sinus infections can vary from just thickening of the sinus mucosa to the invasive infection of the orbit and the scull base. The diagnosis of fungal sinusitis may take up to 6 months or so. The diagnosis should be followed by surgical drainage of the involved sinuses and prolonged oral voriconazole treatment. The severe disease of fungal sinusitis can be lethal as the orbital and the cranial invasions. Surgery indicated chronic sinusitis are 6 to 9% fungal. The nasal secretion is typical mucous thick and clear which called allergic mucin. The swap culture of the secretion can include aspergillus species such as Fumigatus, flavus and niger. Mold hypersensitivity of bronches is type 1 immediate hypersensitivity reaction. Diagnostic approach consists of elevated serum IgE levels, eosinophilic and lymphocytic mucosal inflammation and inspirited allergic mucin containing non-invasive fungal hyphae. CT scan reveals that mucosal thickening of the paranasal sinuses, increased amount of mucin formation in pansinusal area. After diagnosis of allergic fungal sinusitis the treatment approach should consist of functional endoscopic sinus surgery, aggressive allergy management, post operative oral corticosteroids. If required during the follow up the patient may undergo recurrent surgery.

CARDIOLOGY

C1. Acute management of paroxysmal atrial fibrillation in patients with heart failure

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Paroxysmal atrial fibrillation in patients with preexistent heart failure can lead to the decompensation of heart failure. The management of patients with heart failure who develop atrial fibrillation with uncontrolled ventricular rates is a challenge for the clinician. We should control the symptoms of acute heart failure with diuretics and vasodilators, if the patient has normal or high blood pressure, and in the same time, slow down the ventricular rate to less than 120 bpm. In patients with heart failure with reduced ejection fraction, intravenous amiodarone or digoxin can be used. Beta-blockers are not indicated in acute heart failure. After the acute episode, beta-blockers and digoxin are indicated to control ventricular rate as long term therapy. Usually, amiodarone is recommended if ventricular rate can not be controlled with beta-blockers and digoxin. In patients with heart failure with preserved ejection fraction, intravenous nondihydropyridine calcium channel antagonists, verapamil and diltiazem may be used to control the ventricular rate. When ventricular rate can not be controlled or in hemodynamically instable patients, electrical cardioversion to sinus rhythm is performed. Cardioversion to sinus rhythm is considered in patients with a first episode of atrial fibrillation and in all patients after the stabilization of heart failure, because rhythm control is the strategy of choice in paroxysmal atrial fibrillation, with a better prognosis than rate control. Cardioversion may be electrical or pharmacological. In patients with myocardial dysfunction due to persistent rapid ventricular rate, cardioversion to sinus rhythm or, if it is not possible, atrioventricular node ablation and permanent pacemaker implantation are considered. Patients should receive anticoagulant therapy before and after conversion. Newer oral anticoagulants or heparin in hospitalized patients are recommended. In conclusion, rhythm control is preferable over rate control in patients with paroxysmal atrial fibrillation and heart failure, because it improves the capacity of physical exercise and the quality of life.

C2. Hamilton depression scale in patients with arterial hypertension

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Introduction: Arterial hypertension, diabetes mellitus and depression represents chronic non-transmittable diseases that are frequently associated and have a raising trend regarding their incidence and prevalence. The objective of the study was to assess the severity of depression in hospitalized patients with arterial hypertension and diabetes mellitus. **Material and methods:** We evaluated 53 patients hospitalized in the Internal Medicine Clinic of the Clinical Emergency Hospital of Bucharest, Romania, admitted for arterial hypertension. All the patients signed an informed consent. In all the patients, we applied the Hamilton depression scale and analysed the data using Excel 2007 and SPSS Software. **Results.** The study group consisted of 45.28% men, 60.38% patients from urban settlement, the mean age in the study group was 70.37 ± 9.24 years. Diabetes mellitus was present in 33.96% of hypertensive patients. The mean value of Hamilton Scale in the whole study group was 17.88 ± 9.33 points from a maximum of 52 points. In patients with arterial hypertension and diabetes mellitus the mean value in Hamilton Scale was higher than in patients with arterial hypertension but without diabetes mellitus. **Conclusions:** Arterial hypertension is a frequent chronic non-transmittable disease, that predispose to depression. Association of diabetes mellitus amplify this tendency, resulting in a vicious circle.

C3. Endocarditis in an old woman

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Introduction. Endocarditis is a serious infectious disease, with a high mortality. **Case presentation.** A 95-year old female patient, known with heart failure, permanent atrial fibrillation and sinus node dysfunction with VVI pacemaker, right bundle branch block, moderate tricuspid regurgitation, arterial hypertension, dyslipidemia, melanoma (operated and chemotreated), type 2 diabetes mellitus (recently diagnosed) and hypothyroidism induced by amiodarone, under treatment with oral anticoagulants, metoprolol, rosuvastatin, perindopril, diuretics and nitrazepam was admitted for shivers, dysuria and alteration of general state. At admission, the patient presents pallor, class II obesity, without murmurs, blood pressure of 150/80 mmHg, heart rate 70/min and polyuria with dysuria. The Giordano maneuver is negative and the abdomen is painless spontaneously and at palpation. Lab tests revealed leukocytosis with neutrophilia, normocytic normochromic anemia, hyposideremia, thrombocytopenia, mild inflammatory syndrome and nitrogen retention syndrome, hyperglycemia and hypocholesterolemia. The urine examis positive for nitrites, erythrocytes and leukocytes. During admission, the hemoculture for A-group Streptococcus turns positive. Antibiotic treatment with meropenem was initiated. After the result of the antibiogram, we decided to replace it with vancomycin. By correlating clinical and

paraclinical data with the result of the transesophageal ultrasound, which identified a vegetation on the pacemaker, we decided to remove the pacemaker and to continue treatment with cefuroxime for additional 7 days. The patient's evolution was good, with amelioration of the symptoms. *Conclusions.* Endocarditis is a disease with a maximum incidence at the age of 70-80 years, the majority of patients having predisposing afflictions, such as congenital cardiac malformations, valvular disease, prostheses and intracardiac devices, venous catheter or intravenous drug use. In 85% of cases, hemocultures in patients with endocarditis are positive, the most frequently identified germs being oral streptococci, enterococci or staphylococci. The peculiarity of the case lies in the good evolution of the patient under antibiotics, despite the advanced age and multiple comorbidities.

GASTROENTEROLOGY AND NUTRITION

GN1. Particularities in the diagnosis and treatment of the *Helicobacter pylori* infection

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Introduction. The *Helicobacter pylori* (H. p.) infection is a significant public health issue affecting more than 50% of the world population, higher in the less developed countries. In 1984 H. p. was definitively identified by Marshall and Warren, from the gastric biopsy specimens. They received in 2005 the Nobel Prize. In 1994 H. p. was recognized as a type I carcinogen. Transmission of H.p. is made either oral-oral or fecal-oral. Usually H. pylori infection is treated with systemic antibiotic therapy and proton pump inhibitors (PPIs), but persistent bacterial infection was observed after treatment. Some suggested that oral spread would be the main route of H. p. transmission, and both the dental plaque and the saliva could act as a second reservoir and could have implications in reinfection, once the bacterium is eradicated from the gastric tract. The objective of the study was to observe if there are differences between the diagnosis methods, reinfection rates and treatment resistance. **Materials and methods.** We performed a retrospective study based on one-year data records: March 2018 until March 2019. Ag H. P. Stool samples and H. P. Urease tests from gastric biopsy were performed, before and after treatment. The histological assessment of H. P. Was performed using Giemsa stained antral biopsies. **Results.** 852 patients, between 21 and 92 years old, with gastric and duodenal pathology: gastro-esophageal reflux, chronic gastritis, gastric and duodenal ulcer, gastric cancer, biliary reflux. 486 patients H. P.+ 35 patients with Hp + urease test, but Ag H. P. Stool sample. There was 100% concordance between histological biopsies and the urease rapid test. Triple therapy was administrated in 96% of the H. P.+ patients (93% with first line therapy). 3% of the patients were allergic either to Amoxicillin or Clarithromycin. 7% relapsed and were treated with second line antibiotics. 4% received quadruple therapy with good results. 27% had mild digestive reactions. **Conclusions.** 57% patients were H. P. +. 78% gastric cancers were H. P. +. The triple therapy with Amoxicillin, Clarithromycin and PPI was effective in 86% cases. Histological biopsies and H. p. Urease test had 100% concordance.

GN2. Working environment factors as a challenge for workers in pleven region food industry

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Introduction: In the economy of Bulgaria food industry accounts for a significant share. Country-specific technologies and biotechnologies have strong traditional roots – Bulgaria is the homeland of Bulgarian yogurt, Balkan cheese, white cheese, chutney, dry sausage, rose jam and many other original and unique foods. *Aim:* To describe present food industry environment problems and relationship with work of experts on food safety and nutrition. *Methods:* Systematize and get acquainted with the working environment and the organization of work processes in food production as well as monitor the health status of workers. *Results:* In Pleven region, the food and drink industry performs functions of 476 companies, of which 332 for the production of foodstuffs of plant origin and 144 of animal origin. Depending on the nature of the product working conditions are characterized by temperature deviations, high humidity, the presence of pathogenic microorganisms from animal products, allergens of plant and animal origin, noise and vibration. Often they do work on flow conveyors, night shifts, overstrain limbs. Injuries of mild to moderate severity phenomenon often happens. *Conclusion:* Food production is part of the nutrition policy of the population and occupies a leading place in the region's economy. This activity employs a significant number of local people. Food production is part of the nutrition policy of the population and occupies a leading place in the region's economy. In this activity, a significant number of local people are employed, which makes it necessary to undertake labor safety measures at these workplaces.

GN3. Consumers' attitudes to traditional Bulgarian foods

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Introduction: Traditional foods are carriers of health, identity and culture proven in time and by the number of studies. Their sustainability in the food marketing is threatened by the invasion of foreign cuisines and new unknown food products. The aim of the present survey was to analyze Bulgarians' awareness of the health significance of traditional foods and to assess their consumption over the past two decades. *Methods:* The survey covered 125 individuals and 15 traditional foods. The applied methods were: questionnaire method considering the knowledge on

traditional diet and an assessment of the consumption of investigated foods in the period 2000-2018. *Results:* The role of traditional foods for Bulgarian's health was claimed positive by 77.6% of the surveyed persons versus 22.4% who did not link health to traditional diet. This response did not comply with the opinions reported on the other questions in the inquiry and could be regarded as insufficient awareness. Considering the positive effect of the investigated foods, the respondents ranked on the first place yoghurt, followed by onions and nettles, and the descending order of fruits listed apples, grapes, pears. The assessment of the consumption of the studied traditional foods showed certain stability only for yoghurt, cheese, pulses and typical vegetables - tomatoes, peppers and onions. *Conclusion:* The results of this study suggested the need for more comprehensive understanding of the importance of traditional foods for both health and local economic development and for preserving the historical specificity of the regions concerned.

GN4. Coffee consumption and colorectal cancer

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Introduction: The scientific interest in coffee drinking and human health has a long history starting with its assessment as a risk factor until nowadays when there is evidence for its preventive role against a number of degenerative diseases. The new data concerning the relationship between coffee intake and colorectal cancer are of particular interest. The aim of current survey is to present an updated synthesis of the relationship between coffee drinking and colorectal cancer and to provide data about coffee drinking effects by patients with colorectal cancer after surgical treatment. *Methods:* We conducted systematic review and meta-analysis of prospective studies, using the Scopus network following the key words – coffee and colorectal cancer. The assessment of post-diagnostic coffee intake was carried out by 97 patients with colorectal cancer after surgical treatment using questionnaire approach. *Results:* Current scientific data distinguish coffee as a preventive factor reducing colorectal cancer risk and mortality rate. The mechanisms of the biological effect of coffee are substantiated by the antioxidant and anti-inflammatory activity, effects on microbiota and peristalsis. The results from the questionnaire study showed different data corresponding to the person and disease stage, presented as tables. In the inquired persons coffee drinking had shown a health effect, confirmed by survival rate. *Conclusion:* Considering the prevailing scientific evidence in favor of the preventive role of coffee against colorectal cancer and our results we take the liberty to support the recommendations provided by current researchers for inclusion of coffee in the list of possible preventive factors against colorectal cancer.

GN5. Challenging sinusitis

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Introduction: Sinusitis is one of the most seen disease in medical practice. Here, we represent a rarely seen sinusitis case with its clinical presentation and diagnosis. *Case report:* 71 years old patient admitted to our clinic with a chief complaint of head ache and hearing loss. Due to his physical examination both of his ears were applied ventilation tubes, nasal cavity was obstructed by mucopurulent discharge, oropharyngeal area was normal. Previously the patient had been diagnosed as sensorineural hearing loss and given IV steroids. After this episode the patient had been referred to a neurologist. Neurologist recommended otorhinolaryngology follow up. We repeated his hearing tests and he only had conductive hearing loss not a sudden onset sensory neural hearing loss. Ventilation tubes were in their normal place but I could not understand why they were applied. I recommended him two weeks of levofloxacin 500 mg once per day per orally. He finished the regiment but there was no improvement in his medical situation. The after a Magnetic Resonance Imaging study of the paranasal sinuses was asked. Sinuses were totally infected that's what we call pan. Functional sinus surgery and balloon tuboplasty were planned and applied to the patient. After the operation no progression in his medical status was recognized. The patient referred to infectious diseases specialist with a nasal swap specimen to obtain microbiological data of the sinuses. The sinus infection resulted as aspergillus fumigatus. Flocanazol 150mg twice a week prescribed. After the first dose of the tablets patient relieved from his headaches. Clinical improvement after the treatment was obvious. *Conclusion:* Allergic fungal sinusitis recognized in early 80's mostly due to sick building syndrome's mold formation density. Allergic fungal sinus impairment can involve the bronchial area and cause hypersensitivity of the respiratory tract too. Aspergillosis species can lead to a chronic sinus infection resistant to classical treatment modalities and may need to be removed by surgical approach. Immunocompromised patients have a tendency to grow fungal sinusitis. Aspergillus sinus infections can vary from just thickening of the sinus mucosa to the invasive infection of the orbit and the scull base. The diagnosis of fungal sinusitis may take up to 6 months or so. The diagnosis should be followed by surgical drainage of the involved sinuses and prolonged oral voriconazole treatment. The severe disease of fungal sinusitis can be lethal as the orbital and the cranial invasions. Surgery indicated chronic sinusitis are 6 to 9% fungal. The nasal secretion is typical mucous thick and clear which called allergic mucin. The swap culture of the secretion can include aspergillus species such as Fumigatus, flavus and niger. Mold hypersensitivity of bronches is type 1 immediate hypersensitivity reaction. Diagnostic approach consists of elevated

serum IgE levels, eosinophilic and lymphocytic mucosal inflammation and inspissated allergic mucin containing non-invasive fungal hyphae. CT scan reveals that mucosal thickening of the paranasal sinuses, increased amount of mucin formation in pansinusal area. After diagnosis of allergic fungal sinusitis the treatment approach should consist of functional endoscopic sinus surgery, aggressive allergy management, post operative oral corticosteroids. If required during the follow up the patient may undergo recurrent surgery.

PEDIATRICS

P1. Management of pediatric patellar instability

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Introduction: Acute patellar luxation is a common injury in adolescent population. The medial patellofemoral ligament is most important patellar stabilizer injured in an acute patellar dislocation. Initial treatment of this condition could be nonoperative, but in some cases with present osteochondral fragments and high grade patellar instability surgical reconstruction combined with arthroscopy may be indicated. **Materials and Methods:** In the period 2014 – 2016 we have treated 21 patients (12 – 17 years) with patellar luxation. Diagnostic algorithm included clinical evaluation and magnetic resonance imaging in acute phase. 11 patients underwent conservative treatment. For 10 patients was performed surgical treatment – arthroscopic loose body removal combined with reconstruction of medial patellofemoral ligament. MPFL reconstruction was performed with m.gracilis tendon and fixation with bony anchors at the patellar site and resorbable interference screw on the femoral attachment. **Results:** After reconstruction of MPFL subjectively 7 knees had excellent results, 2 knees obtained good results, 1 and 1 knee had a poor result, for a total of 90% improvement overall. Using Fulkerson's functional knee score, 80% had good or excellent results. The Tegner activity level averaged 6.8 preinjury and 6.6 postoperatively. From the conservative group 9 patients (81 %) returned to previous level of sport activity and from the operated patients 8 (80 %) were able to return to preinjury level of activity. **Conclusions:** Patellar dislocation is a common knee injury among the skeletally immature. This article presents our protocol for management of patients with acute patellar dislocation and the technique for MPFL reconstruction. This technique is a minimally invasive surgical procedure with good outcomes in adolescent population.

P2. The incidence and demographical distribution of type 1 diabetes mellitus in children aged 16 or younger between 2000 and 2016 in Northern Cyprus

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Introduction. Type 1 diabetes (T1D) is a disease characterized by severe insulin deficiency. In 2008 our group studied the prevalence of diabetes in adults between 20-80 years of age. Data regarding subjects in the pediatric population is lacking. The objective of this study was to reach the incidence of type 1 diabetes among permanent inhabitants aged 16 or younger between 2001-2016 in Northern Cyprus. *Methods:* This study was a retrospective analysis. The patients were mainly evaluated and recorded at B. Nalbantoglu Hospital in Nicosia. We also reviewed the data of Famagusta Hospital, Kyrenia Hospital, Near East University Hospital and the Cyprus Turkish Diabetes Association. *Results:* A total of 107 subjects were diagnosed as T1D between 2001 and 2016 in this age group. Forty nine (45.7%) were girls and 58 (54.3%) were boys. 38.7% were residing in Nicosia, 30.2% Famagusta, 12.3% Kyrenia, 9.4% Guzelyurt and 7.5% Iskele. The proportion of newly diagnosed T1D was highest among children aged 9-12 years (35.5%) followed by children aged 5-8 years (32.7%). Newly diagnosed T1D were most frequently presented in April and March. The overall mean incidence rate was 11.1/100000 between 2001 and 2016. The incidence rates were similar and comparable among the years. *Conclusion:* This study is the first to analyze the incidence of T1D in Northern Cyprus. Compared to other countries the incidence rate is intermediate. Our findings are similar to the incidence rates of T1D in South Cyprus and Turkey.

P3. Condition and posture correction in school children

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Carriage is usual posture (vertical posture, upright body) at rest and motion. This's noticeable in sensitive load periods of life, in the period of skeletal growth in childhood. The existing organization of the school regime, physical activity, nutrition don't provide children's sufficient lifestyle. Average daily motor activity indices are 40-45% lower than age requirement. Children's life in physical inactivity conditions contributes to incorrect posture development, especially for those with weak motor support apparatus. Aim was to study effects of introducing weekly rhythmic dance program on state of schoolchildren's posture. The initiation of weekly dance classes introduces choreography elements and increases motor activity. During the school year, observations were made for children 13 years old. Two groups of children, engaged under same training conditions, school furniture and class schedule were selecte First group (61 children) engaged in rhythmic exercises, and second (65) not engaged dances The condition of schoolchildren's posture was determined twice during the school year by somatoscopic method, complementing its measurement of depth of cervical and lumbar spinal curves. Impaired posture was found in 6.1% children of first group who performed rhythmic exercises, and in 13% of school-age children from group 2 who weren't engaged. Most of disorders related to changes in sagittal plane and are associated with the asymmetry of muscle tone. One of reasons for incorrect

posture formation is discrepancy between school furniture and children's growth. All children with poor posture were included in rehabilitation monitoring and correction program. Re-examination of schoolchildren at the end of school year showed that most of them had stopped the development of abnormalities. Part of schoolchildren's posture disorders were eliminated, attention skills has been increased, no signs of lethargy, drowsiness and indifference. From schoolchildren with postural deviations engaged in rhythmic exercises and dances (11.1%), while those who didn't participate in these classes (5.6%) defects were eliminated. Posture is considered as indicator of spinal health, also concerns function and shape of lower limbs, which are loaded joints when standing and walking. Good posture is effective and reliable way to prevent such civilization diseases like back pain, scoliosis, spinal osteochondrosis. Established children's lifestyle in majority doesn't provide physical activity. It's advisable to find new ways to improve motor activity of schoolchildren to optimal values. Using specially selected rhythm and dance program can be additional tool to correct musculoskeletal children's system. For healthy schoolchildren, dancing and rhythmic will give positive results for somatic and mental development.

DERMATOLOGY

D1. Venous lakes of the lips successfully treated with a sclerosing agent 1% polidocanol; case series

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Venous lakes of the lip is vascular ectasia that generally appears on the lower lip and other sun-damaged surfaces of skin in elderly patient. There are many local therapies for treatment of lip venous lake such as surgical excision, cryotherapy, infrared coagulation and laser therapy. Sclerotherapy as treatment is used in varicose veins, leg telangiectasia, haemorrhoids and hemangiomas but for lip venous lake only two case has been reported. *Objective:* We present twenty five cases of lip venous lake treated with intralesional injection of 1% polidocanol. *Methods:* Twenty five cases are reported, and literature is reviewed. *Results:* The lesions generally disappeared in two cases leaving an insignificant scar, in two cases become angiodema with two sessions of sclerotherapy. In other cases side effects were not observed. *Conclusion:* Sclerotherapy with polidocanol is an easy, inexpensive method and is found very effective in the treatment of lip venous lake. In the future it offers an alternative to other classic methods.

D2. A case report and overview of recurrence in multiple skin metastases of malignant melanoma

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Introduction: Malignant melanoma is one the most aggressive tumors bearing a great metastatic potential. In most cases the diagnosis of primary melanoma is made in the early stages when the disease is considered curable. Nonetheless the recurrence of the disease is not uncommon being estimated that up to 30% of early stage melanoma patients will develop a recurrence during their lifetime. The most common sites of recurrence are the regional lymphatic node basin and the distant skin. Location of the primary tumor, ulceration, thickness and mitotic rate are found to be

independent predictive factors of recurrence. *Methods:* We report a case of a 40-year-old man who presented to the University Hospital of Bucharest for a tumorous growth involving the right arm and axillary region. Physical examination identified multiple, skin-colored, rather large subcutaneous masses in the right axilla and on the medial aspect of the right arm. The patient had a history of a stage IIb -T3N0M0 forearm melanoma surgically excised one year before the actual presentation. Although typically melanoma metastases present as small, well-circumcised, rather symmetrical, brown or black colored papules and/or nodules, given his history the patient was suspected of having a melanoma recurrence and was admitted to the plastic surgery department for in-depth evaluation and surgical treatment. *Results:* A CT angiogram of the upper arm was performed, followed by the surgical excision of the lesions. The histopathology confirmed the melanoma metastases and the patient was further referred to the oncologist. *Conclusion:* In this paper we also emphasize data from medical literature in order to analyze the risk of recurrence in patients with melanoma in order to identify the best timing for surveillance.

ONCOLOGY

O1. Breast cancer screening

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Introduction: The mortality rate of breast cancer has been declining over the years. The increase in the awareness of the cancer, and breast screening, together with the new personalised-treatment modalities definitely has important role in this reduction. The aim of this presentation is to review breast screening, the different screening modalities in high risk group, and the approach to the women with dense breast. **Methods:** The approach to breast cancer screening has changed over time to a more personalized, risk-based approach. Mainly, we may talk about three groups for screening: 1- Average risk group 2- Increased risk group 3- Dense Breast group Screening for the average risk group usually begins at the age of 40-45 years and continues as long as their overall health is good and they have a life expectancy of 10 years or longer. Different countries may have different screening guidelines. High-risk women should be offered more intensive screening interventions than are offered to the normal population. The ACS (American Cancer Society) issued a guideline for women who were known or likely carriers of a breast cancer gene (BRCA) mutation and other rarer high-risk genetic syndromes or who had been treated with radiation to the chest for Hodgkin disease. Annual screening mammography and magnetic resonance imaging (MRI) starting at age 30 years are recommended for women with a known BRCA mutation, women who are untested but have a first-degree relative with a BRCA mutation, or women with an approximately 20% to 25% or greater lifetime risk of breast cancer based upon specialised breast cancer risk estimation models capable of pedigree analysis of first-degree and second-degree relatives on both the maternal and paternal sides. **Conclusion:** Breast screening has no standard single modality. To our opinion screening for breast cancer must have a personalized modality according to the age, risk factors and the structure of the breast.

O2. MRI and CT calculator on adrenal masses

Yasemin Küçükçiloğlu, Özüm Tunçyürek

EDIR

Introduction: In this presentation, we explain the adrenal masses diagnosis with new radiologic methods. MRI and CT calculator systems are helpful for the diagnosis of adrenal masses. **Methods:** We will mention adrenal carcinomas, adenomas, pheochromocytoma and myelolipomas. **Results:** Carcinomas are usually bigger than 10 cm and rare lesions. The adenomas

have calcification and cystic degeneration (40%) and myelolipomas are contain lipid component.
Conclusion: If the density of the mass ≥ 10 HU in CT we have to exam by MRI.

O3. Dosimetric comparison of normal tissue doses in patients with early stage left breast cancer with free-breathing and respiratory-controlled radiotherapy (RPM)

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Introduction: Breast cancer is the most common type of cancer in women in the world and is being treated successfully due to the current technological developments, the use of new generation drugs and hormone therapy. Postoperative breast or chest wall radiotherapy in patients undergoing breast conserving surgery (BCS) or mastectomy has been shown to cause radiation-induced cardiac and pulmonary morbidity and even mortality. *Methods:* In this study, we aimed to measure the contribution of RPM in reducing late side effects by comparing maximum doses with mean lung dose and V20, V30 values, the average doses of heart and lung volume, heart V20, V30 and V40, left anterior descending coronary artery (LAD) between respiratory controlled radiotherapy (RPM) and free breathing (FB) radiotherapy in patients receiving adjuvant radiotherapy to the left breast after BCS. Fifty-four cases of early stage (Tis- 1-2 N0M0) left breast cancer patients were included in the study. SPSS version 20 was used for statistical evaluation and paired t-test was used to compare FB and RPM treatments. *Results:* In the planning using RPM, mean and maximum LAD doses, total heart dose, mean heart dose and V25, V30, V40 values for heart were found significantly reduced ($p = 0.00001$). There was a statistically insignificant decrease in pulmonary V20, V30 values ($p = 0.421$ and 0.387 , respectively) and a statistically insignificant increase in MLD (mean lung doses) ($p = 0.239$). *Conclusion:* It may be possible to significantly reduce cardiovascular diseases, which are the most important late side effects of radiotherapy in patients with left breast cancer, by using RPM technique.

SURGERY

S1. Analysis of patients who were admitted to plastic surgery department according to their sociodemographic attributes, health conditions and demand for aesthetic treatment

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BNGH Plastic Surgery (Cyprus)

Multitudinous studies are done on plastic surgery patients about their complaints. This study aims to investigate the relationship between their health status and needs of individuals, sociodemographic variables and chaperone use. *Methods:* The study included 52 patients. The collected data is based on the semi-structured sociodemographic tests that had been given by the researches to the each individual separately. This data involves profiles of the patients and further information about chaperones. *Results:* The research shows that 59.6 of the participants were female, whereas 40.4 were male. Distribution of complaints according to their locations: 48% face, 25% hands, 82% on visible sides of the body. 63.5 percent didn't have any plastic surgeries before. 78.2 percent had chaperones throughout their visit in policlinics. 38.5% had acute and 36.5% had chronic (more than 5 years) problems. 44.2 percent was low-income patients. 26.9 percent had mass lesion(s), 25 percent had burns, 19.2 percent had aesthetic concern and 17.3 percent had injuries due to an accident. *Evaluation:* As we see from the results, patients who visit plastic surgery department for cosmetic uses are not the majority. The department is predominantly visited for mass lesions then followed by burn patients. Moreover, data conspicuously shows that 4 over 5 patients in polyclinics prefer to use chaperone for the appointments.

S2. The challenge of diagnosis and treatment in appendiceal mucocoele - case report

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Introduction: Appendiceal mucocoele is a rare disease and it represents an obstructive dilatation of the appendix caused by intraluminal accumulation of mucoid material. Frequently it occurs as an incidental surgical finding. The correct diagnosis before surgery is important considering that a mucocoele treated incorrectly may lead to pseudomyxoma peritonei characterized by peritoneal dissemination. *Case report:* We present a case of a 61-year-old man admitted to the hospital presenting right iliac fossa pain. The patient underwent abdominal ultrasound examination and the abdominal and pelvic computed tomography scan (CT) using contrast is recommended afterward.

CT results suggested that a differential diagnosis between a cecal tumor, an appendiceal tumor and appendiceal mucocoele is necessary. The patient was admitted to the surgery unit. We avoided performing colonoscopy because of the potential risk of an iatrogenic appendiceal mucocoele perforation if it would have been the final diagnosis. Open surgery was performed considering the differential diagnosis and using a right pararectal incision in case right hemicolectomy was needed. We discovered the tumor in the distal appendix. Extemporaneous examination confirmed a benign lesion and the paraffin histology gave the diagnosis of appendiceal mucocoele. Postoperative evolution was favorable. *Discussion:* Mucocoele of the appendix is categorized as rare disease and it can have benign as well as malignant evolution. A correct preoperative differential diagnosis is essential in choosing the adequate surgical technique in order to avoid peritoneal dissemination as well as postoperative complications. Old patients presenting clinical symptoms of acute appendicitis should be suspected of appendiceal mucocoele and undergo CT and open surgery.

S3. The role of laparoscopy in patients developing post-traumatic peritoneal fluid

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Introduction. Trauma surgeons are confronted nowadays with various abdominal injuries, with a more and more increased severity, secondary to urban violence and traffic related accidents. *We aim* to better define the prognostic value of post-traumatic hemoperitoneum (PTH) in the nowadays era of nonoperative management of abdominal lesions, and to correlate it with the current pattern of traumatic injuries. *Material and methods.* Retrospective study of patients admitted during 5 years (2013-2018). Selections criteria: (1) Traumatic injury; (2) Free peritoneal fluid on preoperative imaging; (3) Surgical exploration of the abdomen. *Results.* There were 64 patients, with two peak frequencies between 18-35 and 50-70 years old. Abdominal wall ecchymoses were found in 36 (55%) of cases. Out of 64 cases, 37 (58.7%) were transportation-related, 12 (19%) were caused by human aggression and 10 (16.9%) by falls. According to the Trauma Score (TS), there were 50 (78.2%) cases with TS between 14-16, 9 (17.2%) between 10 –13 and 3 (4.8%) with TS <9. The following extraabdominal associated lesions were found more frequent: head injuries – 38 (58.5%), thoracic trauma – 34 (52.3%), orthopedic injuries – 24 (36.9%). Diagnostic peritoneal lavage was performed in 5 (7.8%) cases. FAST has a sensibility of 70.21% and CT scan a sensibility of 96%. The most frequent injured abdominal organs were the spleen – 46 (71.25%), liver 10 (15.62%) and mesentery - 5 (7.87%). Laparotomy was performed in 59 (92.2%) of cases, laparoscopy in 5 (7.8.1%) of cases and conversion to open surgery in 3 (4.7%) cases. The mortality rate was 23.43%. We observed several predictive factors for mortality on univariate analysis: haemoglobin < 8g/dL (p=0.02),

haematocrit < 25% ($p=0.01$), hemoperitoneum > 1500 mL ($p=0.04$), colonic trauma ($p=0.001$), head ($p=0.01$) and thoracic injuries ($p=0.04$).

Conclusions. Dedicated trauma surgeons should balance between trauma kinetics details, patients' clinical examination, and diagnostic workup, in an effort to decrease morbidity and mortality secondary to missed injuries or unnecessary laparotomies.

VARIA

V1. The toxicity of silver nanoparticles: autophagy impairment

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Introduction: The development of nanotechnologies is double edged, involving also health and safety related problems and impacting more and more the environment in the developed countries. Risk assessment of the human exposure to AgNPs is needed for elucidating the mechanistic base of nanotoxicity. For now, it is generally accepted that AgNPs induce cellular toxicity through oxidative stress; AgNPs and Ag⁺ ions resulting from particle dissolution occurring in acidic lysosomal compartments are responsible for mitochondrial injury, endoplasmic reticulum stress and DNA damage. A growing body of research suggest that autophagy impairment is a novel mechanism which inter-modulates the cytotoxic effects induced by AgNPs. **Methods:** The research was performed on PUBMED data base, and it was limited to those articles published in English language between 2008 and 2018. The search method used the keywords „silver nanoparticles, autophagy” and it returned 38 results. From those, only three were review type, published in 2016 and 2018. **Results:** Autophagy is a process which can be triggered following the exposure to nanomaterials, providing in this way a cellular defense mechanism against the toxicity induced by nano particles. Eventhough exposure to AgNPs can initiate the autophagy process, the autophagosome-lysosome fusion showed to be impaired, leading in this way to worsen cytotoxic response. **Conclusions:** Silver nanoparticles may function as autophagy disruptors altering the autophagosome-lysosome fusion. As a consequence, enlarged autophagosome may concentrate in high amount in the cytosol, increasing in this way the cellular toxicity of nanoparticles . The clarification of these mechanisms will help in the reveal of the toxic outcomes for the exposure to other nanostructures.

V2. The influence of atmospheric air quality indicator „fine dust particles 10“ on population health of Pleven

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Introduction: Dust is basic atmospheric air pollutants and has harmful health effect mainly for children, senior people and suffering from chronic diseases, flu or asthma. On the territory of Pleven air monitoring is carried out in an automatic measuring station, which performs continuous measurements of the basic parameters, characterizing the quality of the atmospheric air. *Aim:* For period 2018-2017 to study and analyze air quality indicator levels of FDP up to 10 μ and residents health status. *Method:* The limit values for FDP are set by Regulation № 9 (State Gazette №46/1999 and №86/2005). The purpose of the introduced limit values (LV) is prevention from the harmful effect on human health and on the environment. *Results:* Analysis shows that FDP10 levels are above LV. In 2018 there was an exceedance of average daily rate (ADR) and average annual rate (AAR) for FDP10. The requirement that ADR should not be exceeded for more than 35 days within one calendar year was not met in 2018 and 2017. The average annual concentration FDP10 exceeds the AAR over both years. Maximum concentration FDP10 in 2018 is lower than one in 2017. Respiratory system diseases are leading in the overall disease structure in 2017 – morbidity of 145.4 per 1,000 inhabitants in 2017. Respiratory diseases occupy a relative share of 3.4% in mortality for reasons. Respiratory system diseases are among the leading three class diseases. *Conclusion:* In Pleven region, FDP ambient air pollution is mainly due to household gases waste, emissions rising during the coldest months, during the heating season. Summer, pollution is due to poor condition and maintenance of road surfaces and streets. Atmospheric contamination with FDP is important but not only cause of lung diseases. There is no definitive evidence of direct impact of air quality on population's common health status.

V3. Nitrate content in the drinking water of Pleven region

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Introduction: Increased nitrate content in drinking water is the most common deviation in the quality of drinking water in Bulgaria. The aim of the study is to establish the significance of the problem especially in the Pleven region (PIR) where 123 settlements are located. In the PIR only underground water sources are used for drinking water supply, at the same time there is a highly developed grain production with a significant use of nitrogen fertilizers. *Methods:* A retrospective documentary survey of the monitoring data from the Regional Health Inspection and the Danube River Basin Directorate was made for the period of 2010- 2015 year. The relationship between increased nitrate content in groundwater and surface application of nitrogen fertilizers in agriculture has been studied (the depth of aquifers and the presence of sanitary protection zones). *Results:* An increased nitrate content of over 50 mg/L was found in 15 small settlements, which represents 12.20% of the PIL population. The predominant excess of nitrate in drinking water

ranges from 50-100 mg/L. Only 3 of the 15 settlements have average values above 100 mg/L. The total number of exposed people in the affected settlements is 14154 or 5.25% of the total population in the area (269 752). The relative share of the exposed population in the region is almost 2 times higher than the exposed population in Bulgaria (2.75%) set for the period 2005-2007. *Conclusion:* The larger share of exposed population in the PIR compared to the proportion of the exposed population of nitrates in the drinking water in the country is probably due to the fact that only the underground water sources are used in the PIR whereas for the country the quantity of underground and surface water sources is almost equal.

V4. Updates in the diagnosis and treatment of primary immunodeficiency

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Introduction: Primary immunodeficiencies (PID) are genetic diseases that affect the immune system and its capacity to fight against infections. There are more than 300 PID and more than 200 of them are genetically diagnosed. *Methods:* We present a case series of PID in pediatric patients that were evaluated, diagnosed and treated in our clinic. *Results:* *First case:* girl, aged 3, frequent respiratory infections. Immunologic investigations: hyperimmunoglobulinemia M (IgM), hypoIgA, and hypoIgG (IgM: 366 mg/dl, IgG < 2 mg/dl; IgA 4mgdl). Molecular diagnosis: homozygous mutation C.441C A on p.C147X, gene AICDA (exon 4). Final diagnosis: hyperIgM type 2. Treatment: intravenous immunoglobulin (IGIV). *Second case:* boy, aged 10, multiple infections, since the age of 2, some severe. Immunologic investigations: hypoIgG2 (51,2mg/dl) and hypoIgG4 (1,5mg/dl). Lymphocyte immunophenotyping: low values of CD3+CD4+ count (15%;19%) and CD19+ count. Probable diagnosis: X-linked agammaglobulinemia (XLA). Substitution treatment: IGIV. Medium term evolution was favorable. Subsequent final diagnosis: severe combined immunodeficiency. Long term evolution: chronic cytomegalovirus infection, evaluated abroad, bone marrow transplant was suggested, and as far as we know he was still waiting for compatibility. *Third case:* boy, aged 6, Klinefelter syndrome, frequent respiratory infections. Immunologic investigation: hypogammaglobulinemia (IgM: 0.27g/l; IgG: 2.58/l; IgA: 0.03g/l). Lymphocyte immunophenotyping: very low CD19+ count (0.05%). Substitution treatment: IGIV. Evolution was favorable. Genetic diagnosis: mutation p.His362Arg, gene BTK. It is the first case with this association of Klinefelter syndrome and XLA described in medical literature. *Conclusion:* Clinical evaluation can raise the suspicion of PID from anamnesis, personal and family history, recurrent infections and autoimmune or oncologic disease.

Progressive immunologic evaluation, depending on clinical findings and genetic investigations helps set the final diagnosis in PID. Treatment is complex and depends on the etiopathogenic type of PID. The update in PID is that in the close future there is a possibility of radical genetic treatment through gene editing.

V5. Health literacy and health outcomes

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Introduction: Health literacy is a continuing topic of research, which refers to an individual's ability to obtain medical information, process them intellectually and understand them, so as to make appropriate decisions about their health and follow the doctor's recommendations, all for the improvement of his/her health and preventing illness. *Methods.* The authors conducted an analysis of studies published in the literature to identify the relationship between health literacy and health outcomes, focusing in particular on factors that can influence this relationship both in positive and negative terms. *Results.* Health literacy refers both to medical reading and numeracy and concerns both the patient and the medical staff, especially with regard to the way information is exchanged between healthcare professionals and the patient. Also a healthy lifestyle, information on disease prevention, knowledge of early manifestations so that medical help is timely requested are part of health literacy. Thus, studies conducted so far show that the level of health literacy directly influences the patient's health and, implicitly, the health system, low health literacy being associated with higher costs because of multiple and longer hospitalization, the more frequent use of emergency services and lack of disease prevention by screening tests (mammograms, Pap smears, flu shots). Moreover, the lack of understanding of medical notions significantly contributes to the failure of self-care, the latter having a central role in improving the quality of life. *Conclusions.* Health literacy is essential for improving health and preventing disease. For this reason, implementing measures to increase the level of health literacy among both patients and healthcare professionals is the key to achieving good health outcomes and, implicitly, for a better quality of life, as well as for the reduction of the costs in the healthcare system.