TENTH INTERNATIONAL MEDICAL CONGRESS

Clinical & Translational Medicine. Challenges in the Healthcare Systems - 21st century. Values & Principles.

5-8 September 2019
Sofia, Bulgaria

Sofia, Bulgaria
2019

SEEMF

SOUTHEAST EUROPEAN MEDICAL FORUM

(SEEMF)

TENTH ANNIVERSARY INTERNATIONAL MEDICAL CONGRESS

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Challenges in the Healthcare Systems-
21st Century. Values & Principles

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SOUTHEAST EUROPEAN MEDICAL FORUM
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TENTH ANNIVERSARY INTERNATIONAL MEDICAL CONGRESS

OF

SOUTHEAST EUROPEAN MEDICAL FORUM

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Dr .....

has been awarded **17** European CME Credits (ECMEC®s)
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Dear Colleagues, SEEMF members, Friends,

It is my great honor and pleasure to welcome all of you once again in Bulgaria!

The Tenth Anniversary International Medical Congress of Southeast European Medical Forum is a very special event for me, for I have dedicated the last ten years of my life in making this organisation as important and influential as it is now!

As we are all aware, most of the countries in South eastern Europe have similar healthcare systems and experience similar problems in the fields of quality of care, professional approaches, medical standards, migration of health professionals and institutional cooperation. Nine years ago, driven by enthusiasm and a yearning for knowledge, we began organizing the first congress of our organisation without being certain whether it was going to successful or not. However, after almost a decade has passed, I can proudly state that together we have experienced an unforgettable exchange of experience in medical practice, valuable knowledge and personal friendship. Today the commitment and our efforts bring me pride, for we continue to witness growth in the number of participants, prominent lecturers and member-organizations in the Southeast European Medical Forum. I believe that the high level of interest in our multidisciplinary Congresses is the best proof of their worldwide importance to the medical science and practice. After a decade, I am proud to say that the Southeast European Medical Forum has become one of the most influential professional societies and a reputable partner to other European and International Associations.

The Scientific program of the Tenth Anniversary International Medical Congress of SEEMF was designed to cover almost entire field of clinical and translational medicine through the lectures of our speakers- all of which with highest academic and practical competences. I am in no doubt that the experience we are about to share together during the next few days, will enhance your career development in numerous ways. As usual, you may expect new findings to be presented and discussed, all of which aim at improving the understanding of the current medical practices in all aspects for the best of our patients and will help us acquire the adequate skills to answer the current challenges for a healthier world.

I have made sure that in addition to enjoying the Scientific program of the event, you will have the opportunity to enjoy the traditional Bulgarian cuisine and to taste our amazing wines; to get a sense of the ancient Thracian Culture through the Gold treasures that you will see; to feel the atmosphere of the city of Plovdiv – one of the oldest cities in the world and the oldest living city in Europe, chosen as European Capital of Culture for 2019.

Welcome to the Tenth Anniversary International Medical Congress of SEEMF! Thank you for being a part of our unique Southeast European Medical Society.

Assoc. Prof. Andrey Kehayov, MD
SEEMF President

Tenth Anniversary International Medical Congress of SEEMF

Message from the President of the World Medical Association, Professor Leonid Eidelman

On behalf of the World Medical Association, it is indeed a privilege to participate in the 2019 SEEMF Medical Congress. The exchange of ideas, and collaboration among physicians from Southeast European countries – neighbors with a similar healthcare system facing parallel issues – is vital to the wellbeing of physicians and patients. Your commitment to promoting Southeast European countries with quality medical education, medical practice and healthcare is admirable.

The WMA stalwartly supports physician associations that pursue their goals and we look forward to continuing cooperation with SEEMF.

My abiding thanks to the Southeast European Medical Forum for hosting this year's congress. Sofia, the location of the meeting, serves as a great backdrop. It is one of the oldest city's in Europe and uniquely melds the east and west.

My hope for all those attending this meeting is that we continue to uphold The Physician's Pledge of the WMA's Declaration of Geneva, "WE SOLEMNLY PLEDGE to dedicate our lives to the service of humanity and FOSTERING the honor and noble traditions of the medical profession. "

Congratulations on your 10th anniversary and best wishes for continued success in your endeavors!

TENTH ANNIVERSARY INTERNATIONAL MEDICAL CONGRESS OF THE SOUTHEAST EUROPEAN MEDICAL FORUM

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- Dr. Alexandros Dounavis, MD,PhD – Fleming Hospital, Surgery Department, Melisa, Greece

TENTH ANNIVERSARY INTERNATIONAL MEDICAL CONGRESS OF THE SOUTHEAST EUROPEAN MEDICAL FORUM

5th-8th September 2019
Sofia, BULGARIA

AGENDA

Thursday, 5th September 2019

08:00 - 18:00 Accommodation and registration

12:00 - 13:30 SEEMF BOARD MEETING - Conference Halls SOFIA I & II

13:30 – 14:00 Coffee Break

Topic:
Round Table: Challenges in the Healthcare Systems - 21st century. Values and Principles (Conference Hall – Sofia II)

Moderators: Assoc. Prof. Andrey Kehayov, MD, PhD. & Dr. Oleg Musii, MD

14:00 – 14:10 Prof. Leonid Eidelman, MD, President of WMA

14:10 – 14:20 Challenges Before the Public Health in the 21st Century: Values and Principles -Prof. Tihomira Zlatanova, MD, PhD, Faculty of Public Health, Medical University-Sofia, Bulgaria

14:20 – 14:40 Global Medical Progress and Development Over the Next Thirty Years from Perspective of Climate Change, Global Pollution, Demographic Change, Antimicrobial Resistance and Technological Development – Dr. Peteris Apinis, MD, e.c. of World Medical Journal, Riga, Latvia

14:40 – 14:50 Will shortage of GPs ever end or are we in for a Permanent Crisis in Primary Healthcare- Dr. Primož Rus, Ljubljana, Slovenia

14:50 – 15:00 Quality Indices in Community Care- Expectations vs Reality – Dr. Alexander Levin, MD, MHA, Medical Association of Israel

15:00 – 15:10 Unresolved Strategic Dilemmas in the Healthcare and their Impact over the Health Policy - Assoc. Prof. Alexandrina Vodenitcharova, PhD, Medical University Sofia, Faculty of Public Health, Sofia, Bulgaria

15:10– 15:20 Aspects of Transformation of the Health System of Ukraine in the 21st Century. Realities and Needs – Dr. Oleg Musii, President of Ukrainian Medical Association.

15:20 – 15:30 Challenges of the Health care in 21st Century – Slovenian Suggestions – Prof. Pavel Poredoš, MD,PhD – President of the Slovenian Academy of Science, Ljubljana, Slovenia

15:30 – 15:45 Coffee Break

15:45 – 15:50 Healthcare in the 21st century - Ms. Milka Vasileva, President of Bulgarian Association of Health Professionals in Nursing, Sofia, Bulgaria

15:50 – 16:00 Conceptual Model For The Prevention of Risk of Chronicon-Communicable Diseased (HND) - Prof. J. Staykova, MD, PhD, Medical University Sofia, Faculty of Public Health Sofia, Bulgaria

16:00 – 16:10 Society of Doctors of Russia – Dr. Stepan Firstov, Associate Member of the World Medical Association, Chelyabinsk, Russia

16:10 – 16:20 Human Capital in Municipal (Community) Healthcare: Professional Development, Training and Demographic Influence – Dr. Elisaveta Petrova- Geretto, Department of Medical Ethics and Law, Public Health Faculty, MU-Sofia, Bulgaria

16:20 – 16:30 The importance and prospects of cross-border pursuit of healthcare – Ms. Irini Tsimpidi, SGK Medicredence, Athens, Hellas

16:30 – 16:40 Challenges for the Provision of Medical Practitioners – Consequences for the Healthcare System in Bulgaria – Dr. Galinka Pavlova, Faculty of Public Health, Medical University Sofia, Bulgaria

16:40 – 16:50 Challenges in the Healthcare System in the 21ST Century – Ms. Rositsa Markova, student Public Health and Health Management/master/ Faculty of Public Health, Medical University-Sofia

16:50 – 17:00 The Strategic Style of Management Thought – an Unconditional Attribute to Effective Health Reform - Assoc. Prof. Andrey Kehayov, MD, PhD, DMSc, Faculty of Public Health, Medical University- Sofia, Bulgaria

17:00 – 17:10 Humanism and Medicine. Doctors in Art – Emanation of Professional Humanism(Why there are Bulgarian doctors-writers?) – Prof. Veselin Borisov, MD, PhD, DMSc, Faculty of Public Health, Medical University Sofia, Bulgaria

17:10 – 18:30 **Discussions/ Q&A Session**

Parallel Session

Topic: Gastroenterology. Transplantations (Conference Hall – Sofia III)

Moderator: **Prof. Gia Lobzhanidze,** MD,PhD, DMSc,

14:00 – 14:20 Modern technology accelerated the recovery after surgical operations of the injured in the chest - Prof. Sviataslau Shnitko, MD, PhD, Military Medical Faculty in the "Belarusian State Medical University" Minsk, Republic of Belarus

14:20 – 14:40 Enhanced Recovery After Surgery – Dr. Alexandros Dounavis, MD, PhD, Surgery Department, Fleming Hospital, Melisa, Hellas

14:40 – 15:00 Hematopoetic Stem Cell Transplantation and Hodgkin Lymphoma – Prof. Sonja Genadieva- Stavric, MD, PhD, Clinic of Hematology, Skopje, Republic of North Macedonia

15:00 – 15:20 Ez-Vivo Normothermic Liver Perfusion: Effects of Two Different Blood Flow – Prof. Zurab Chkhaidze, MD, PhD, Tbilisi State University, Faculty of Medicine, Dpt. Clinical Anatomy and Operative Surgery, Tbilisi, Georgia

15:20 – 15:30 Robotic surgery – Dr. Anna Kasouli, MD, Surgery Department Fleming Hospital Melisa, Hellas

15:30 – 15:45 Coffee Break

15:45 – 16:00 Unusual Case of Femoral Hernia with Incarcerated Transverse Colon with Perforation - Prof. Nikola Jankulovski, MD, PhD, Rector of University "Ss Cyril and Methodius", Skopje, Republic of North Macedonia

16:00 – 16:15 Morphological Changes in Liver After of 8-Hour Preservation by Machine Perfusion – N. Inauri, Ivane Javakhishvili Tbilisi State University (TSU), Georgia

15:30 – 17:30 Poster session- Varia (Parallel to lectures)

20:00 Welcome Reception/Cocktail

Friday, 6th September 2019

Topic: Sexual Medicine & Reproductive Health (Conference Hall – Sofia I1)

Moderator: **Prof. Grigor Gorchev, MD,PhD, MDSc,**

Keynote Lecturers: Prof. Michel Müller, MD & Prof. Grigor Gorchev, MD

09:00 – 09:30 Sentinel Lymph Node Biopsy in Endometrial Cancer: a new Standard? – Prof. Michel Müller, MD, PhD - Department of Obstetrics and Gynaecology, Inselspital Bern, University of Bern, Switzerland

09:30 – 10:00 Modern Trends in 3D Surgery – Prof. Grigor Gorchev, MD, PhD, MDSc, Medical University – Pleven, Bulgaria, General Manager University Hospital "St. Marina" Pleven, Bulgaria, Head of Clinic of Gynecological Oncology, Center of Oncology at University General Hospital for Active Treatment

10:00 – 10:15 Surgical Treatment of Cervical Carcinoma - Future Aspects - Assoc. Prof. Goran Dimitrov MD, PhD, University Clinic for Gynecology and Obstetrics, Medical Faculty, University Ss. "Cyril & Methodius", Skopje, Republic of North Macedonia

10:15 – 10:30 Hydrosalpinx and Distribution of Pregnancies among Laparoscopically Treated Patients – Assoc. prof. Gligor Tofoski, University Clinic of Gynecology and Obstetrics-Skopje, Republic of North Macedonia

10:30 – 10:45 Latest news about assisted reproductive technologies (ART) – Prof. Atanas Shterev, MD, PhD, General Manager, SAGBAL "Dr.Shterev", Sofia, Bulgaria

10:45 – 11:00 Thyroid Dysfunction During Pregnancy- Determination of a Trimester-specific Reference Interval for Thyroid Stimulating Hormone – Dr. Yanachkova V., MD - Endocrinologist - "Dr. Shterev" Hospital, Sofia, Bulgaria

11:00 – 11:15 Struma ovarii - Khatuna Khatchapuridze, MD, Ivane Javakhishvili Tbilisi State University (TSU), Georgia, Maia Mchedlishvili, MD, Ph.D, Alexandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia

Topic: **Neurology, Neurosurgery & Psychiatry**

Moderator: **Acd. Wladimir Ovcharoff, MD, PhD**

11:15 – 11:30 Endovascular Treatment of Cerebral Aneurysm – Modern Trends and Where Do We Stand – Assoc. prof. Stanimir Sirakov, MD, PhD, University Hospital "St. Ivan Rilski", Interventional Radiology Department, Sofia, Bulgaria

11:30 – 11:45 Results of Thrombolytic Treatment in a Patient with Acute Ischemic Stroke in Combination with Myocardial Infarction - Dr. Yordan Karaivanov, MD, MHAT" Atanas Dafovski", Kardzhali, Bulgaria

11:45 – 12:00 Morphological Changes of the Dentate Gyrus in Alheimer's Disease Rats' Model – Thioflavin-S Fluorescence Assay - T. Angelov, Department of Anatomy, Histology and Embryology, Faculty of Medicine, Medical University of Sofia, Bulgaria

12:00 – 12:30 Lunch Break

Topic: Nephrology & Urology. Transplantations

Moderator: **Prof. Goce Spasovski**, MD, PhD

Keynote Lecturers: **Prof. Goce Spasovski,** MD PhD; **Dr. Mehmet Sever**, MD **Prof. John Boletis**, MD, PhD; **Prof. Petar Kes,** MD, PhD **Assoc. Prof. Stella Stabouli**, MD, PhD

12:30 – 12:50 Kidney Transplantation Practices in the SEE Region and North Macedonia - Prof. Goce Spasovski, MD, PhD, University Department of Nephrology, Medical Faculty, Skopje, N. Macedonia

12:50 – 13:10 Transplant Patients with Failing Renal Allografts – Dr. Mehmet Sever, Istanbul School of Medicine, Turkey

13:10 – 13:30 ABO Incompatible Kidney Transplantations – Prof. John Boletis, MD, PhD, Laiko Hospital, National and Kapodistrian University of Athens, Hellas

13:30 – 13:50 Ethical Controversies in Kidney Donation – Prof. Jadranka Buturovic-Ponikvar, MD, PhD, Lubljana University, Slovenia

13:50 – 14:10 Face to face with the Challenges of Kidney Transplantation – An Overview of Instructive Cases – Prof. Petar Kes, MD, PhD, School of Medicine, University of Zagreb, Croatia

14:10 – 14:30 Kidney Transplantation in Children – Dr. Rina Rus, University Clinic Centre Lubljana University, Children Hospital Department, Lubljana, Slovenia

14:30 – 15:00 Pediatric Kidney Transplantation: The Greek program – Assoc. Prof. Stella Stabouli, MD, PhD, Pediatric Nephrology, University of Thessaloniki, Hellas

15:00 – 15:30 Coffee Break

15:30 – 16:00 Ischemic Nephropathy - Prof. Boris Bogov, MD,PhD , Head of Clinic of Neurology, Medical University, Sofia, Bulgaria

Topic: Orthopaedics & Traumatology. Calamity Medicine

Moderator: **Prof. Ivet Koleva, MD, PhD,DMSc**

Keynote Lecturer: **Assoc. Prof. Johannes D. Bastian, MD**

16:00 – 16:30 Fracture Treatment in the Elderly – Current Challenges – Assoc. Prof. Johannes D. Bastian, MD, Department of Orthopaedic and Trauma Surgery, Inselspital Bern, University of Bern, Switzerland

16:30 – 16:45 Impact of Physical and Rehabilitation Medicine in the Clinical Management of Neurological, Neurosurgical, Rheumatological and Traumatological Patients - Prof. Ivet B. Koleva, MD, PhD, DMSc, Medical University of Sofia, Faculty of Public Health, Bulgaria.

16:45 – 17:00 Evolutionary development of modular system „Nestorov“ for external fixation of the locomotory system -Dr. Georgi Krustev, MD, University hospital ”Kaspela”, Plovdiv, Bulgaria

17:00 – 17:30 Bulgarian Red Cross- Procedure Opportunities in crisis situations at national and international level – Prof. Krasimir Gigov, MD, PhD, DMSc, General Secretary, Bulgaria Red Cross, Sofia, Bulgaria

Parallel Session

Topic: **Cardiovascular Diseases & Cardiovascular Surgery. Transplantations (Conference Hall – Sofia I)**

Moderator: **Prof. Ivo Petrov, MD, PhD, DMSc & Prof. Pavel Poredoš, MD, PhD**

Keynote Lecturer: **Prof. Ivo Petrov, MD, PhD, DMSc**

09:00 – 09:30 Centralization of flow concept for type A and B aortic dissection. Role of non-covered Stents - Prof. Ivo Petrov, MD,PhD, DMSc, University Head Cardiology Department, Acibadem City Clinic, Sofia, Bulgaria

09:30 – 09:50 Improving the results of extracorporeal cardio-pulmonary resuscitation – Assoc. Prof. Nodar Khodeli, MD, PhD, Tbilisi State University, Tbilisi, Georgia

09:50 – 10:10 Prevention of Different Atherosclerotic Diseases: Does Effect of Preventive Measures Depend on Location of the Atherosclerotic Process? - Prof. Pavel Poredoš, MD, PhD, President of Slovenian Medical Academy, Ljubljana, Slovenia

10:10 – 10:20 Methods for Technical Implementation of PCI of Bifurcation Stenosis - Mr. Martin Malakov, Medical student, Faculty of Medicine, Trakia University, Stara Zagora, Bulgaria

Topic: **Varia**

Moderators: **Prof. Valentin Djonov, MD & Prof. Todor Cherkezov, MD PhD**

Keynote Lecturer: **Prof. Valentin Djonov, MD**

10:20 - 10:50 Microbeam Radiation - hope for future treatment of cancer- Prof. Valentin Djonov MD, PhD, Director of Institute of Anatomy, Bern, Switzerland

10:50 – 11:10 Human Reproduction and IVF in Georgia (Zhordania Clinic Today)- Assist. Prof. Dr. Tinatin Supatashvili MD, PhD, Tbilisi State University, Faculty of Medicine, Department of Clinical Research Skills, Tbilisi, Georgia.

11:10 – 11:20 Forensic Approach in Sexual Assault Cases – Prof. Zlatko Jakovski, MD, PhD, Institute for Forensic Medicine, Criminology and Medical Deontology, Skopje, Republic of North Macedonia

11:20 – 11:40 Non-Invasive Prenatal Detection of Fetal Maturity Using Ultrasound Density of Fetal Lungs and Total Pulmonary Volume – Dr. Elena

Dzikova, MD, PhD, University Clinic for Gynecology and Obstetrics, Skopje, Medical Faculty, University Ss. "Cyril & Methodius", Skopje, Republic of North Macedonia

11:40 – 12:00 New Technologies in Diabetic Patient Treatment and Follow-up – Prof. Ivona Daskalova, MD, PhD, DMSc – Clinic of Endocrinology and Metabolic diseases, Military Medical Academy, Sofia, Bulgaria

12:00 – 12:30 Lunch Break

12:30 - 12:50 Nuclear Medicine Imaging in Breast Cancer - Prof. Daniela Miladinova, MD, PhD, Institute of Pathophysiology and Nuclear Medicine, Medical Faculty, University Ss. "Cyril & Methodius", Skopje, Republic of North Macedonia

12:50 – 13:10 Professional and Personal Relationships as an Element of a Social Adaptation in Patients with Psoriasis – Dimitrina Serafimova, MD, PhD, Department of dermatology and venereology, Medical faculty, Medical University, Sofia, Bulgaria

13:10 – 13:30 Adults with Skin Malignant Tumors in the Field of Eyelids - Dr. Tsvetelina Spiridonova, MD, PhD, CEO MPHAT " Hygia " JSC, Pazardzhik, Bulgaria

13:30 – 13:50 Health and media – between the news, scandals and the truth. Challenges of Communications in 21st Century – Mrs. Darina Stoeva, Chief editor "Forum Medicus", Sofia, Bulgaria

13:50 – 14:10 Drug Addiction Treatment - Prof. D. Chaparoska, MD, PhD, University Clinic of Toxicology, Medical Faculty, University Ss. Cyril and Methodius, Skopje, Republic of North Macedonia

14:10 – 14:30 Collapse of Ecosystem – Dr. Stylianos Antypas, MD, SEEMF Secretary General, Athens, Hellas

14:30 – 14:50 Psoriasis and Heredity – Dr. Dimitar Cherkezov, MD, Department of dermatology and venereology, Acibadem City Clinic, Tokuda Hospital, Sofia, Bulgaria

14:50 – 15:10 CD56 and p63 Immunohistochemical peculiarities under Autoimmune Thyroiditis versus Micropapillary Thyroid Carcinoma (MPTC)- Prof. Liana Gogiashvili, MD, PhD, Head of Department of Clinical and Experimental Pathology, Tbilisi State University, Georgia

15:10 – 15:30 Cardipulmonary Resuscitation in Emergency Medical Department of Banjaluka in 2018- Prof. Nada Banjac, Public Health Institution,

Medical Center Banja Luka, Emergency Medical Department, Bosnia and Herzegovina

15:30 – 16:00 **Coffee Break**

16:00 – 16:20 Hashimoto Thyroiditis as Possible Predicting of Fillicular Epithelial Dysplasia - T. Gvianishvili – Student at Al.Natishvili Institute of Morphology,Tbilisi State University, Tbilisi, Georgia

16:20 – 17:00 The Impact of Liver Protein Complex Immobilized in Neutral Ointment on Homologous Cell Proliferation - Veronika Gunia, Student at Tbilisi State University, Tbilisi, Georgia

17:00 – 17:20 Experimental Evidence of the Possibility of Delivery the Growth Inhibitory Factor Immobilized in Functional Polymer – Giorgi Bazerashvili, Student at Tbilisi State University, Tbilisi, Georgia

17:20 – 17:30 Healthcare Needs More Leadership, Not More Management- Iliya Kalibradov, Student at Medical University- Sofia, Sofia, Bulgaria

17:30 – 17:40 Classification of Synaptic Types in the Dorsal Claustrum of the Cat -Mr. Vidin Kirkov, Student Department of Anatomy, Histology and Embryology, Medical University of Sofia, Bulgaria

17:40 – 17:50 Criteria for Assessing the Quality of Work in Hospitals Organizations - Assoc. Prof. Tatsiana Tserakhovich, MD, PhD, Republican Scientific and Practical Centre for Medical Techhnologies, Information, Administration and Management of Health, Minsk, Belarus

17:50 – 18:00 Gender Difference Trends of Mortality Age of 60+ Years of the Population of the Republic of Belarus in the During the Second Half of XX – the First Quarter of the XXI Century- Assoc. Prof. Romanova A.P, Belarus Postgraduation Medical Academy, Minsk, Belarus

18:00 – 18:10 Role of medical association in promoting educational courses: „Wound Healing Curriculum for Physicians - Dr. Jasmina Begic, MD, MSc, PhD, Sarajevo, Bosnia and Herzegovina

20:00 **Gala dinner**

Saturday, 7th September 2019

Topic: Aging of Population (Conference Hall Sofia 1)

Moderator:	**Acd. Prof. Wladimir Ovcharoff MD, PhD, DMSc**,
09:00 – 09:20	Aging and Skeletal Muscles - Acd. Prof. Wladimir Ovcharoff, MD, PhD, DMSc – Medical University of Sofia, Bulgaria
09:20 – 09:40	Public Health Problems Arising From an Aging Population – Prof. Hristina Milcheva, MD, PhD, DMSc,Tracian Univesrity, Stara Zagora, Bulgaria
09:40 – 10:00	Population Age – Active Aging and Nutrition - Prof. Dragana Dinić, MD, PhD, ScD, Belgrade, Serbia
10:00 – 10:15	Effective Disfunction in Male Health – Prof. Zdravko Kamenov, MD, PhD, DMSc, Head of Department of Internal Medicine, Medical University- Sofia, Bulgaria
10:15 – 10:25	Physical Activity and Healthy Diet – Key Factors in the Osteoporosis Prevention - Rozalina Yordanova, PhD student, Medical College, Trakia University, Stara Zagora, Bulgaria
10:25 – 10:35	Aging, Polymorbidity and Polypragmasy Possibilites of Homeopathy - Dr. Petko Zagrchev, MD European School of Clinical Homeopathy, Sofia, Bulgaria
10:35 – 10:45	Aging of Population and Challenges to Healthcare: Republic of Belarus – Assoc. Prof. Nataliya Glinskaya, Ph.D. Republican Scientific and Practical Center of Transfusiology and Medical Biotechnology, Minsk, Republic of Belarus
10:45 – 11:00	Is There a Role of surgery in Non-Small Cell Lung Cancer Patients with Isolated Adrenal Metastases? - Prof. Danail Petrov, MD, PhD, Thoracic Surgery Department, MHATPD “St. Sophia”, Sofia, Bulgaria
11:00 – 11:10	Long-Term Survival After Pneumonectomy for Adenocarcinoma; Successfully Treated Late Postpneumonectomy Empyema and Adrenalectomy for Isolated Synchronous Adrenal Metastasis - Dr. Anatoli Semkov, MD, Thoracic Surgery department, MHATPD “St. Sophia”, Medical University Sofia, Bulgaria

Topic: Pharmacotherapy

Moderator: **Acd. Prof. Wladimir Ovcharoff MD, PhD, DMSc**,

11:10 – 11:20 Rules for Good Pharmaceutical Practice – A fundamental for a team-based patient care – Stefan Balkanski, Master Pharmacist, Bulgarian Pharmaceutical Union, Sofia, Bulgaria

11:20 – 11:30 Regulation of Energy Homeostasis By Novel Molecules – Prof. Beti Dejanova, MD, PhD, Institute of Physiology, Medical Faculty, University Ss "Cyril & Methodius", Skopje, Republic of North Macedonia

11:30 – 11:40 Innovations in Bulgarian Pharmacies - Perspectives and Challenges- Todor Naydenov, Bulgarian Pharmaceutical Union, Sofia, Bulgaria

11:40 – 11:50 "Let food be thy medicine, and let medicine be thy food" – Prof. Hristo Mermerski, DM, Sofia, Bulgaria

11:50 – 12:00 D-Penicillamine in the Treatment of Wilson Disease – Ms. Estela Kalinina, Student at Medical University, Sofia, Bulgaria

12:00 – 12:30 **Closing Ceremony (Conference Hall Sofia- I)**
Social program

Sunday, 8th September 2019

08:00 – 18:00 **Issue of Certificates**

Departure of Delegates

ABSTRACTS

AGING
OF THE POPULATION

PUBLIC HEALTH PROBLEMS ARISING FROM AN AGING POPULATION

Prof. Hristina Milcheva, PhD, Medical College at Trakia University, Stara Zagora, Bulgaria, Assoc.Prof. Albena Andonova, PhD, Medical Faculty at Trakia University, Stara Zagora, Bulgaria, Mariya Dimova- Medical College at Trakia University, Stara Zagora, Bulgaria

Introduction: Aging is one of the greatest challenges of today's society. The low birth rate combined with the relatively longer life expectancy represents a lasting and irreversible change in the age structure of society. The new population structure requires taking into account demographic changes and revising strategic approaches to solving the problem on a global, European, national and regional scale. According to Eurostat, the share of the population aged over 65 is 20% of the total population of Bulgaria, compared to an average of 18.9% for the EU, while the birth rate is 1.5 for the country and 1.6 for the EU. Some of the main risk factors for the health of Bulgarians are related to smoking and alcohol abuse and obesity. Legislative efforts to mitigate risk factors are still not effective.

Purpose of the study: To analyze key public health issues arising from population aging based on strategic and normative documents.

Materials and Methods: Analysis of Documents and Statistics, Scientific Literature An analysis of some strategic documents at European and national level related to demographic problems and health of the population has been carried out, and they are devising specific measures and actions for resolving them in the near and further away.

Results and discussion: In the public health parameter, the importance of healthy lifestyles to the health of the population is becoming increasingly important, which would lead to the prevention, alleviation or postponement of chronic diseases. The promotion of health awareness programs and the formation of health culture among all age groups is a priority. Prevention of behavioral risk factors related to nutrition, physical activity, alcohol, drugs and tobacco, as well as environmental risks as a public health issue to provide support for a healthy lifestyle in the aging process and reduce the burden, which are the chronic diseases.

At the national level, strategic documents have been developed and worked in harmony with the European strategies and programs, which also address the problem of population aging as well as the measures and ways to solve socio-health problems of society. (Health 2020 Objectives Concept, National Health Strategy (2014-2020), National Health Map of the Republic of Bulgaria, Concept for Better Healthcare, National Program for Prevention of Chronic Diseases (2014-2020) In the National Strategy for demographic development of the population in the Republic of Bulgaria (2012-2030) examines the state and trends in demographic development of the population and the European guidelines for the development of demographic policies to meet the challenges. Strategy 7 of the Strategy sets the measures for the development and implementation of a National Concept for Active Aging. Adaptation of health and social systems as well as education and the labor market to the aging population is envisaged in order to exploit the potential of the elderly.

Key words: *health awareness, active aging, healthy lifestyle, programs and concepts*

POPULATION AGE - ACTIVE AGING AND NUTRITION

Prof. Dr. Dragana Dinić, The College of Social Work, Belgrade, Serbia, Prof. Dr. Hristina Milcheva, Medical College, Trakia University

Introduction: The aging of the population is the result of the developmental stage of society, and the United Nations points out that it is one of the most important social transformations of the 21st century. Just extending human life, on the one hand, is a triumph, and on the other hand a great challenge. Age, as the source of aging, is a very complex situation in which an individual faces many losses and destruction, from physiological (when hearing impairments, vision, reduction or complete failure of the work of individual organs, limitation or loss of mobility or autonomy in the widest sense), to those on the social plane (such as leaving the professional sphere, withdrawing from social life, marginalizing society, neglecting and abusing).

Since longevity does not guarantee a desirable quality of life, researchers are expected to study, analyze and propose a variety of and adequate modalities of behavior in the third era.

The goal: With this work we want to show that proper nutrition and activity can contribute to the quality of life in old age, and to share our experiences and results from concrete projects and research with the elderly.

Methodology: Good practice of Serbia and Bulgaria in working with elderly people through the results of initiatives and research on nutrition of the elderly from 65 years old in Bulgaria and Serbia was presented, on a sample of 200 respondents (100 each from each country, 100 from the city and from the village) . Bulgaria and Serbia, in addition to Germany, Sweden and Italy, are among the top 5 oldest populations in Europe.

Results and Discussion:

- Analyzes show that the proper diet of older people, as well as active lifestyles (getting around, social contacts), significantly affect the quality of their lives.
- A discussion of good practices aimed at healthy and active aging is provided on the example of the Olimpiada of the Sports, Health and Culture of the third age, which has been held for 12 years in Serbia, and is an example of active and inclusive aging.
-An example of healthy aging and improving the quality of life of older people is given through the implementation of the Adult Education Project on health topics, which increase their motivation for healthy aging and improve their quality of life, implemented in Stara Zagora, Bulgaria.

Key words: *aging and age, physical activity, nutrition and health, inclusion, training.*

AGING AND SKELETAL MUSCLES

Acad. Prof. Wladimir Ovtscharoff, MD, PhD, DScM, Medical Academy, Sofia, Bulgaria

Summary: With aging the force and strength capacity of skeletal muscles is declined. The aging is related with the process of sarcopenia, which is result of reduction of number of muscle fibers, their size and combination of two processes. The decreasing of the number of these fibers especially affect the type II white fibers. These changes lead to decreasing in muscle quality and coordination of elderly individuals. The skeletal

muscle have the ability to regenerate, mainly by means of satellite cells (muscle stem cells), but with aging declines the muscle regeneration, while is disturb the activity of satellite and immune cells (T cells, NK cells, some granulocytes and others) taking part in muscle regenerative process. Data confirm that part of the loss of muscle fibers is due to the loss of motor neurons in the spinal cord with aging, which leads to denervation of the muscle fibers. It is possible the reinnervation of these fibers from the healthy motor neurons, as this process declines with aging. There are effects of endocrine changes on muscle structure – decreased testosterone, estrogen and growth hormone level and with vitamin D deficiency and increased parathyroid hormone and insulin resistance. These processes play an important role for the reduction of muscle power. Obesity, with intramuscular fat, is connected with decreased possibility for skeletal muscle regeneration – lipotoxicity. There are supporting data that endurance and strength training can slow and partially recovered some of the age-depending structural and physiological changes in the human skeletal muscles. Energy and protein intake is very important component of the training during aging. It is obligatory introduction of respective nutritional strategies to limit the process of sarcopenia.

PHYSICAL ACTIVITY AND HEALTHY DIET – KEY FACTORS IN THE OSTEOPOROSIS PREVENTION

Rozalina Yordanova, PhD student, Medical College, Trakia University, Stara Zagora, Bulgaria, Seren Riza, Student, Medical College, Trakia University, Stara Zagora, Bulgaria

Introduction: Osteoporosis is a very common bone disorder with increasing risk among women. It is a worldwide health concern that cause many negative consequences of individual's quality of life and result in enormous costs to affected people and society. Regular physical activity and healthy diet are essential part of the osteoporosis prevention and treatment. Physical exercises positively affect bone health via multiple mechanisms, including regulation of bone maintenance and stimulation of bone formation in addition to improving muscle strength and balance, which reduce the overall risk fractures. However, the maximal benefits of physical activity on bone health also depend on adequate consumption of most nutrients and normal hormonal status.

The aim of the study is to review the scientific data regarding physical activity and balanced nutrition related to osteoporosis.

Materials and methods: study of scientific literature and international experience regarding osteoporosis.

Conclusion: Physical activity and well-balanced nutrition are important for development and maintenance of a healthy skeletal system and therefore can significantly reduce the risk of osteoporosis.

Keywords: *osteoporosis prevention, physical activity, healthy diet.*

AGING, POLYMORBIDITY AND POLYPRAGMASY POSSIBILITES OF HOMEOPATHY

Petko Zagorchev,MD, European School of Clinical Homeopathy, Sofia, Bulgaria

The author takes a look on the aging as a factor, contributing for polypragmsy, polymorbidisation and jatrogennic prevelance. The polymorbidity is not being observed as having two or more chronic diseases in an aging patient, as according to the deffinition given by WHO (World Health Organisation), but „under the lights“ of a new concept related to the hollistic method towards paitents' treatment. This concept is the root of the family medicine, defined by WONCA (World Organisation of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians). The polymorbidity as being in this new concept entangles and includes all diseases of the patient. It is not just the sum of some nosological units, but the relations and interactions in between with the development of a new pathomorphological condition.New conditions that lead to complications related to polymorbidity are mostly asthenia, depression, itch and edemas. They can modify the "health exit" and can lead to higher levels of being invalided, lowered quality of life or even "weakness" regarding the patients. Here the "weakness" is defined as higher level of being invalided.The polymorbidity is an actual problem, because it affects non-stop growing percent of the patient of every general practitioner.

The causes for this are:

- Introducing new methods for treatment and invasive methods.
- The ongoing growth of a persons' life.
- The aging of the human population.

The condition of polymorbidity is related to a line of unfavorable tendencies, such as polypragmsy, jatrogennic pathology, tendency to sclerosis and sycotization in the chronic pathology and worsened quality of life from the related with it new disease symptoms. The clinical practice shows that the treatment of polymorbid patients with homeopathic drugs is an effective complementary method to the conventional treatment. The introduction of homeopathic drugs to polymorbid patients leads to:

- Improving the therapy results
- Lowering the polypragmsy
- Taking the control over the newly evident pathology

The used drugs of psoric, sycotic and luetic lines – Arsenicum album, Kalium carbonicum, Natrum sulfuricum, Causticum, Calcarea fluorica, Gelsemium semperv., Apis mellifica and others. The relation benefit-risk is being favorably affected by the medical treatment, the polypragmasy is being lowered and the risk of unwanted drug effects is being lowered as well, the quality of life is being improved in patients and the treatment possibilities are wide open.

Key words: *polymorbidity, polypragmasy, jatrogennic pathology, homeopathy*

ПОСТАРЕНИЕ НАСЕЛЕНИЯ И ВЫЗОВЫ ЗДРАВООХРАНЕНИЮ: РЕСПУБЛИКА БЕЛАРУСЬ

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Постарение населения Республики Беларусь ведет к нарастанию демографических угроз и увеличению нагрузки на структуры здравоохранения.

С целью объективизации вышеназванных процессов были проанализированы численность населения и показатели заболеваемости лиц в возрасте старше трудоспособного (до 2016 г. 55 лет и старше (женщины), 60 лет и старше (мужчины), в 2017 – 55,5 и 60,5 лет), коэффициент демографической нагрузки за период 2011-2017. Рассчитывались показатели динамики и интенсивные коэффициенты.

Анализ показал, что численность населения пенсионного возраста выросла с 2178960 человек (2011) до 2355460 человек (2017) или на 8,1%, составив 24,8% в возрастной структуре населения (2017). Коэффициент демографической нагрузки на трудоспособное население вырос на 17,0%, составив 0,737 (2017), при этом вклад лиц пенсионного возраста составлял около 59,0% (2011-2017), рост коэффициента за счет лиц изучаемой возрастной группы произошел на 16,4%.

В 2011 г. уровни общей заболеваемости лиц пенсионного возраста и численности диспансерного контингента превышали аналогичные для взрослого населения (18 лет и старше) в 1,3 и в 1,6 раза соответственно (составив в структуре заболеваемости взрослого населения 38,2% и 45,2%). Анализ по причинам выявил более высокие уровни показателей по сравнению с лицами 18 лет и старше населением при новообразованиях (общая заболеваемость и численность диспансерного контингента была выше в 2,0 и 2,2 раза); болезнях системы кровообращения – в 2,2 и 1,9, цереброваскулярных болезнях – в 2,9 и 2,7; бронхите хроническом и эмфиземе легких – в 2,7 и 2,4, сахарном диабете – в 2,4 раза. Вклад абсолютного числа случаев изучаемых явлений у пожилых в структуру показателей взрослого населения составлял: для новообразований – 57,3% (общие заболевания) и 60,9% (диспансерный учет); болезней системы кровообращения – 62,9% и 54,5%, сахарного диабета – более 67,0%, для цереброваскулярных заболеваний – 81,9% и 78,2%, хронической бронхолегочной патологии – 76,7% и 66,6%.

За 6 лет произошел рост абсолютного числа случаев общих заболеваний у лиц пенсионного возраста на 17,9%, выросла численность диспансерного контингента на 31,2%. При сахарном диабете показатели выросли в 1,4 и 1,5 раза, болезнях системы кровообращения – в 1,1 и 1,4, новообразованиях – в 1,2 и 1,1, цереброваскулярных заболеваниях – в 1,1 (диспансерный контингент). Интенсивные показатели общей заболеваемости и численности диспансерного контингента в пенсионном возрасте снизились в пределах 1,5-9,5%, в том числе для отдельных причин, за исключением цереброваскулярных заболеваний (рост показателя состоящих на диспансерном учете на 5,0%). Возрастная структура абсолютного числа изучаемых явлений сохраняла тенденции, отмеченные в 2011. Постарение населения привело к росту абсолютного числа случаев заболеваний, увеличению численности диспансерного контингента при сохранении

интенсивных (частотных) показателей заболеваемости у лиц в возрасте старше трудоспособного. Возросла нагрузка на первичное звено здравоохранения: в 2017 число посещений к врачам лицами 55,5 (60,5) лет и старше составило 32,9% от всех посещений взрослыми; посещений врачами на дому по поводу болезни – 37,8% от всех посещений. Частично ситуация в стране оптимизирована за счет перехода к общей врачебной практике, введения должности помощника врача, развертывания медико-социальных (обеспеченность в 2017 – 0,4‰), паллиативных коек (0,4‰), коек сестринского ухода (4,9‰), наличия 4-х госпиталей инвалидов войны, работы 618 школ здоровья третьего возраста.

Заболеваемость населения старших возрастных групп характеризуется высокими уровнями, полиморбидностью, превалированием хронических форм с прогрессирующим течением, частой нуждаемостью в посторонней помощи и уходе, что, в свою очередь, требует переориентации и дополнения медицинской помощи спектром медико-социальных услуг.

CARDIOVASCULAR DISEASES

&

CARDIOVASCULAR SURGERY.

TRANSPLANTATIONS

ENDOVASCULAR TREATMENT OF COMPLEX AORTIC DISSECTION. A SINGLE CENTER 5 YEARS' EXPERIENCE WITH 36 PATIENTS

Prof. Ivo Petrov, MD, PhD, DMSc, Department of Invasive Cardiology, "Acibadem City Clinic" University Hospital, Sofia, Bulgaria

There is a gap in the treatment of both type A and B aortic dissection complicated by end organ malperfusion syndrome. Classical surgical or endovascular treatment limited to primary entry resolution is non-sufficient in more than 30% of the cases. We represent analysis of aortic morphological and clinical outcomes of 36 patients, all treated with endovascular non-covered stents implantation in the true lumen of the aorta and affected branches after primary stent-graft or surgical treatment in the context of complex treatment of type A or type B aortic dissection.

As primary end point we checked midterm induction of positive aorta remodeling (increasing the size of the true lumen and decreasing the size of false lumen) by this centralization of flow strategy. Secondary endpoints were survival, aorta related secondary revascularization procedures, branch patency.

Results from the diameter of both lumens measured by CTA before and at least 1 year after the treatment showed statistically significant differences, patent stents, as well as symptoms improvement in all patients. At one year general survival, aorta related and general mortality in this complex group of patients was 0%.

Conclusion: The concept of redirection of flow toward the true lumen in aortic dissection with non-covered stents was safe, lead to positive aorta remodeling and resulted in excellent survival and clinical results.

IMPROVING THE RESULTS OF EXTRACORPOREAL CARDIO-PULMONARY RESUSCITATION

Assoc. Prof. Khodeli N. MD,PhD, Assoc.Prof., Chkhaidze Z. MD, PhD
Iv. Javakhishvili Tbilisi State University, Institute of Morphology. Georgia.

Background: Today extracorporeal cardiopulmonary bypass (ECPB) is the most effective method of resuscitation during sudden cardiac arrest (CA). A positive result is achieved in 30-40% of cases, which is significantly higher than the statistics of the conventional method of resuscitation - 5-10%. Cases of successful resuscitation are more often described in the literature, while unsuccessful cases and their many causes are not sufficiently covered. Of these, the method of artificial systemic blood circulation is of great significance. In an animal experiment we tried to develop, the most optimal method for restoring extracorporeal circulation and perfusion support after the modeling of a sudden cardiac arrest.

Methods: In 3 animal experiments, the advanced extracorporeal life support (ECLS) apparatus of our own inhouse design was tested. The blood pump of the apparatus, driven by a reversible hydraulic drive, created a pulsating flow. The pulsator was synchronized with the cardiogram and equipped with a pulse offset regulator. The device included an oxygenator with a heat exchanger and an arterial filter. Sheep was

used as a biomodel. Fifteen minutes after the simulation of cardiac arrest, cervical stem vessels were cannulated and connected to ECLS. Perfusion was carried out in two stages:
• Stage I - to restore of cardiac self-contraction;
• Stage II - after the restoration of persistent contraction.
At the first stage, unsynchronized perfusion was performed in incremental mode to the calculated physiological volume of blood flow with an arbitrary pulse rate. When independent cardiac contractions were restored in the second stage, cardiosynchronized perfusion was performed in counterpulsation mode, and the perfusion volume was at least 70% of the calculated circulating blood volume.

Results: In two cases, cardiac activity recovered independently 30 minutes after the initiation of cardiopulmonary bypass. In one case, defibrillation was necessary. At the second stage, the auxiliary blood circulation was carried out in the counterpulsation mode for 60 minutes. The system pressure was maintained at 125/80 mm Hg. pulse rate reached 95 beats/min; volumetric blood flow in the femoral artery - 45 ml/min. Analysis of the cardiogram and cardiohemodynamic data indicated that adequate myocardial discharge was achieved both in preload and afterload. In all three cases, it was possible to turn off the ECLS device, while maintaining adequate blood circulation function within 2 hours of observation. We are announcing a new perfusion tactics for ECPB, which requires confirmation in animal experiments and predict an improvement in the clinical resuscitation in cases of using this method.

Conclusion: For effective post-stress myocardial discharge, ECPB during resuscitation should be carried out in two stages (before and after recovery of cardiac activity) with different perfusion tactics.

TRICUSPID VALVULAR MYXOMA: A RARE CASE OF TRICUSPID VALVE MYXOMA COMBINED WITH ATRIAL SEPTAL DEFECT IN PATIENT WITH ISCHEMIC CEREBRAL INFARCTION AND PULMONARY EMBOLISM

K. Mavrodieva, A. Keltchev, S. Ivanova, S. Kazakov, Y. Getsov, Cardio- vascular Surgery Department, University Hospital “Acibadem City Clinic”, Cardio-vascular Center, Sofia, Bulgaria

Poster presentation:

Background: Primary cardiac tumors are extremely rare- only about 5% of all cardiac tumors, with myxomas being the most common primary tumors of the heart, with a frequency between 30% and 50%. Generally they are localized in the left atrium- about 75% of all cases. In the main this kind of tumor is pedunculated, with its stalk rising from the left side of the interatrial septum, at the border of fossa ovalis. In exceptional cases myxomas can be found in unusual and atypical locations, including the right atrium- 18% and the left or right ventriculi- 6%. The tumor can also arise from the valves- in less than 1% of all cases. Such a rare location is associated with difficulties in the diagnosis, due to the diversity of the clinical manifestations and frequent variability in the macroscopic appearance. The rare position can also be an obstacle for effective surgical treatment, because of the disturbed intraoperative visualization and complicated total tumor resection. Although myxomas are benign tumors, their presence may lead to variety of serious medical conditions and death, and therefore must be surgically removed once being diagnosed. One of the complications of myxoma is embolism, which is associated

with high morbidity and mortality. A rare case of myxoma, attached to the anterior leaflet of the tricuspid valve, arising from the papillary muscle combined with ASD in patient with ischemic cerebral infarction and pulmonary embolism, was operated in the Department of Cardiac Surgery in University Hospital Acibadem CityClinic Sofia, Bulgaria.

Methods: Preoperatively it was used CT- scan, TTE, TEE, as well as 3D Echocardiography to be determined and confirmed the exact location of the tumor and the structures involved in the process. The patient has suffered chest trauma and due to suspected pleural adhesions we decided not to use right mini-thoracotomy approach and median sternotomy was performed. Intraoperatively it was used crystalloid Bretschneider cardioplegic solution, right atrial approach and the tricuspid valve was replaced with biological valve prosthesis. Histological examination confirmed the diagnosis of myxoma.

Results: There were no postoperative comlications- bleeding, embolic incidents, infection, need of reoperation or tricuspid regurgitation. The patient was dehospitalized 6 days postoperatively in good health condition.

Conclusion: In cases with myxoma with atypical and unusual localization such as the tricuspid valve, the effective surgical treatment requires optimal intraoperative visualization and total extirpation of the tumor. For this to be accomplished of primary importance are improved diagnostics, optimal strategy and timely surgery, which will provide excellent short and long-term results.

METHODS FOR TECHNICAL IMPLEMENTATION OF PCI OF BIFURCATION STENOSIS

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Angiography of Bifurcation Stenosis: The quality of the angiography is essential for the diagnosis and treatment of bifurcation lesions. The adequate visualization of the side branch ostium allows adequate diagnosis and classification of the stenosis, facilitates the placement of the guides and the stent. Right anterior oblique RAO caudal, spider, TIMI are the most appropriate projections for the assessment of distal stem stenosis. TIMI LAO and cranialce are commonly used for the assessment of LAD bifurcations and the diagonal branch. RAO and caudal allow accurate assessment of the circulations of the bifurcations of the circumflex artery. RAO, LAO, and cranial can be used to assess the distal lesions of the dominant circumflex artery. Anteroposterior APand cranial are useful for assessment ofthe bifurcation distally of the right coronary artery.

One of the difficulties of working on bifurcation stenosis is the qualitative angiography. The problembifurcation also includes the exact assessment of the diameter of the main branch. The reason is that in 1, 2 and 3 type of stenosis the measurement of the reference diameter is influenced by the diameter of the distal segment. In type 4, the size of the proximal segment leads to overestimation of the two branches, as well as the

percentage of stenosis. The size of the lateral branch is usually underestimated, since there is no proximal reference diameter of the ostial stenosis. Errors are also due to the great difference in the distal diameter of the vessels.

The technical execution of the PCI of bifurcation stenosis is always a challenge. Each lesion varies depending on the varying anatomical features:

-Place of bifurcation

-Plaque localization

-Morphology and size of plaque

-Angle between main and lateral branches

-Diameter of the vessels.

In addition, the plaque changes during the very dilatation. Changed is the bifurcation angle, as a result of the shift of the plaque or the carina, spasm of the vessels, dissection of the coronary vessel. One of the most important steps in the dilatation of bifurcation stenosis is to choose the right strategy based on the anatomical features of the lesion, in order to optimize the outcome of the intervention.

Lot of techniques were developed in vitro on the basis of bench test. A major flaw in these tests is the absence of stenosis. Used were vessels of the order of 3.5 mm for the main vessel and 3 mm for the side branch.

Mainly 4 options were developed to treat bifurcation lesions:

Type A – placing of the stent in the ostium of the side branch, followed by the stenting of the main branch, covering the ostium of the side branch;

Type B – stenting of the main branch, followed by the stenting of the side branch at the level of its ostium, through the struts of the first stent;

Type C – known as "Culotte" technique or in some cases Y technique. It is carried out by stenting of the main branch from the proximal to the distal segment of the plaque, the Jailing ostium of the side branch. The second stent is placed from the proximal segment of the main branch to the side branch, resulting in jailing of the distal part of the stent in the main branch. In this way, there are two stents in the proximal part of the plaque.

Type D – Placed are two stents of the ostiums, then another stent in the proximal segment is placed, if necessary. This technique is known as Y stenting.

On theory, type A stenting should lead to good results. A problem may be the exact placement of the stents. Sometimes the stent in the side branch may not be positioned exactly on the ostium and thus a non-stented section of the plaqueremains. Therefore, some authors recommend a slight prominence of the stent in the side branch to that of the main branch. This, in turn, can make it difficult to pass to the side branch afterwards. In order to ensure proper stenting of the lateral branch Colombo suggests using modified T-technics. For this purpose, it is necessary to use a larger guiding catheter – 8 or 9F. Two guides are placed at the beginning of the procedure. Placed is the ostial stent in the side branch and another stent in the balloon and the guide in the main branch and the guide and the balloon are taken out of the side branch. In order to ensure full coverage of the ostium of the side branch, the stent is placed in the proximal part of the main branch and so the two stents are crushed in the proximal part of the plaque, where there is a triple layer stent. The placement of the stent in the main branch crushes the struts of the side branch, which may cause worsening of the blood flow in the side branch.

Type B. The stent is placed in the side branch through the struts of the stent in the main branch. The placement of the stent in the side branch can be very difficult, even

impossible, on an extremely angulated side branch. It may not cover well the ostium of the side branch, especially if it is move away at an angle of about 90 degrees. The opening of one of the stent struts in the main branch can deform it in the direction of the ostium of the side branch. When the opened strut is in the distal part of the Ostium, near the carina, usually a good coating of the plaque and an optimum resultis obtained.

Type C procedure implies placement of a second stent through one of the struts of the first stent. The disadvantage is the large amount of metal – two layers in the section above the separation of the side branch. Even after the final kissing, there remains a deformation of the struts around the carina.

Type D – touching stents has been developed for treatment exclusively of bi-ostial lesions. It is quick and simple. There are several options. In cases where the stenosis extends over the ostium, placement of a third stent is required. It may be necessary to apply the technique of Colombo

The first thing to consider is whether to implant one or two stents. If you use one stent, provisionsl stenting is applied. If two stents are used, the side branch is also stented. When using one stent, the main branch is stented in case of clinical data and angiographic characteristics, such as TIMI blood flow below 3 and FFR below 0.80.

Randomized data indicates that provisional stenting is superior to the technique of stenting of the side branch, as it shortens the procedural time, the contrast used and results in equivalent clinical results as if two stents are used. In any case, this does not apply to all bifurcation. Each one must be assessed individually. Stenting of the side branch is required in about 30% of non-stem and 50% of stem bifurcations. Considered should be the specification of bifurcation.

In general, the technique with two stents is used when there is significant stenosis and the ostium of the side branch, that is, Medina 1.1.1, 1.0.1, 0.1.1. It should be taken into account that the presence of two implanted stents increases the risk of stent-thrombosis. The length and diameter of the side branch are the main indicators that determine the need or not of two stents.

The bifurcation angle is the angle between the main and side branches. One stent is preferred forclosed angle below 70 degrees, and two at a large angle of more than 70 degrees. Large bifurcation angles increase the risk of complications and the side branchocclusion. The bifurcation angle must be assessed before and after the main vessel stenting.

Isolated ostial or short stenosis of the side branch is less likely to be occluded, compared with a long lesion of this branch. In the randomised studies comparing the application of one or two stents, most of the ostial stenoses of the side branch were shorter than 3 mm. The two-stent technique is preferred for longer stenoses-over 10 mm and provisional stenting – for focal stenoses under 5 mm. If the side branch stenosis is between 5 and 10 mm, it shall be assessed individually according to the operator's experience.

Vascular access can be femoral or radial according to operator's preferences. With transfemoral access, a catheter of 6F size is preferred. If a two-stent technique is used, it is preferable to use 7F or 8F catheters. It should be known that two stentscan not be placedsimultaneouslythrough 6F catheter, therefore this size is used in one-stent technique.

Techniques with a single stent implantation

This technique follows the following steps:

1. Two coronary guides are placed – in the main vessel and in the side branch. Only one guide can be entered – in the main vessel, if IVUS specified in advance with the that the plaque in the main vessel is not located on the side branch.
2. Pre-dilatation of the main vessel.
3. Stenting of the main vessel with diameter corresponding to the diameter of the distal part of the main vessel, with the jailing of the guide to the side branch. Jailing of hydrophilic or polymer guides should be avoided because of the risk of rupture of the guide.
4. Assessment of the result in relation to the main vessel and the side branch. If the result is satisfactory, the guide is removed from the side branch and the procedure ends. If the side branch has TIMI blood flow below 3 and/or the patient has a anginal symptomatology, then theguide is not removed from the side branch and the procedure continues.
5. An attempt is made to place a guide in the side branch through the edges of the implanted stent. If this results in a satisfactory outcome, the procedure ends. If there is blood flow again in the side branch under the TIMI3 or the patient is still symptomatic, the procedure continues.
6. Balloon dilatation of the side branch
7. Assessment of the angigraphical outcome in relation to the main and side branches.
8. If the result is sub-optimal, a final kissing with balloons in the main and side branches with noncompliant balloons or FFR on the side branchis made. The final kissing is made in order to correct any deformation in the stent in the main vessel.
9. The side branch is stented, if it is more than 2.5 mm in diameter, has over 75% stenosis or FFR below 0.80.
10. After side branch stenting, a final kissing is made again.

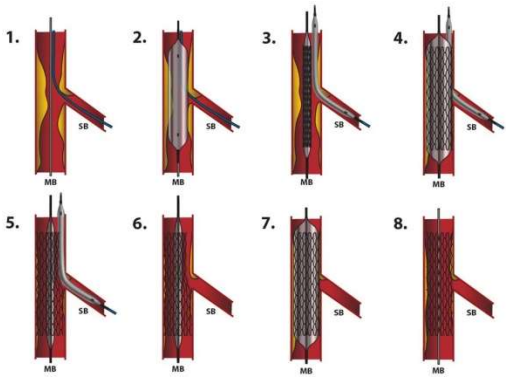
Overcoming difficulties in passing through the side branch:

1. Attempt with another guide.
2. Change of the tip of the guide so that it corresponds to the angle of the bifurcation.
3. Change of the places of the guides.
4. Use of supper cross microcatheter.
5. Technique with jailed balloon. This is a technique with a single stent, in which the balloon is pre-placed in the side branch and if after the stent inflation, its ostium is compromised, the balloon is inflated and then removed. The purpose of this technique is to preserve the side branch. Finally, a balloon is inflated in the stent in the main vessel.

After stent implantation – difficulties in passing into the side branch:

1. Use another guide, such as High-Torque Whisper or Hi-Torque Pilot 50 or 150.
2. Change of the curve of the tip of the coronary guide.
3. Using a proximal balloon to support the guide's entry into the side branch.

4. Use of supper cross microcatheter.
5. Jailed balloon to facilitate dilatation of the side branch.
6. Using a second guide or a small balloon 1.25 mm to help the passage through the stent to the side branch.



Techniques for provisional stenting:

If balloon dilation of the side branch does not result in a satisfactory result, then branch stenting is applied. In all cases this finishes with a final kissing with balloons in the main and sidevessels. The following techniques are used:

1. T-stent technique.

In this technique, the stent in the side branch is positioned precisely on its ostium without protrusion to the stent in the main vessel.

2. T with protrusion – TAP.

This technique is similar to the upper one, with the exception that the proximal end of the stent in the side branch is slightly-1-2 mm in the stent in the main branch. Balloon is used in the main vessel. Both balloons are inflated at the same time and then removed. It is appropriate to use IVUS to assess whether there is a deformation of the stent struts in the main container.

There are other techniques – reverse, intertnal crush, provisional culotte, but they are currently replaced by the above described and they are preferred.

Technique with two stents for the treatment of bifurcation stenosis: As underlined, the two-stent technique is used at a bifurcation angle of more than 70 degrees or longer than 10 mm ostial stenosis of the side branch. Several techniques have been proposed for the implantation of two stents.

A. Classic or modified T-stenting.

1. Guides are inserted and the main and side branches are pre-dilated.

2. The stent is implanted in the side branch of the T-technique or without it
3. Removed is the balloon from the side branch.
4. Assessed is the result, the need for additional actions in the side branch.
5. If the result is satisfactory, the guide from the side branch is removed.
6. The stent is implanted in the main branch.
7. Inserted again is a guide to the side branch through the stent struts in the main branch.
8. Postdilatation of the stent in the side branch with a noncompliante balloon.
9. Final kissing.

These techniques are suitable at bifurcation angle about 90 degrees. However, it is possible that the stent in the side branch does not cover the ostiumwell, which will create a predisposition for restenosis.

B. TAP technique

This technique is used in a provisional stenting with a single stent. However, it can be applied in two-stent technique. It should be taken into account that the passage of a second stent through the struts of the first one can turn out to be impossible and to complete the procedure with a suboptimal result.

C. Culottetechnique

1. Coronary guides are placed and pre-dilate the side branch and the main vessel.
2. Implant a stent in one branch with or without jailing.
3. Re-place the guide in other branch through the struts of the first stent.
4. The non-stented vessel is dilated with a noncompliant balloon.
5. Place a stent in the non-stentedbranch.
6. Again, a guide shall be placed in the first vessel through the second stent struts.
7. Final kissing.

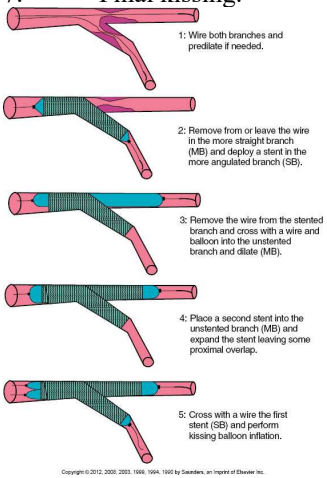


Figure: Culotte Technique. Reproduced with permission from Topol EJ, Teirstein PS, eds. Textbook of interventional cardiology. 6th ed. Philadelphia, PA: Elsevier Saunders

Culotte technique allows for full cover of the plaque. It must be used with open cell designe stents to be able to pass through the stent struts. The disadvantage of the technique

is that in the proximal end of the stent in the main vessel there are two layers of stent. It can also not be used if there is a large difference in the diameter of the two vessels. Compared to crush technique, it gives fewer complications during the procedure, as well as less restenoses.

D. Mini-crush and Step-crush Techniques

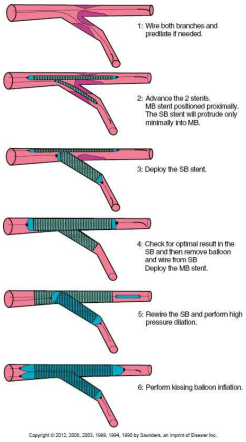


Figure: Mini-crush Technique. Reproduced with permission from Topol EJ, Teirstein PS, eds. Textbook of interventional cardiology. 6th ed. Philadelphia, PA: Elsevier Saunders.
The original crush technique is carried out by positioning the stents at the same time in the main and side branches. First the stent is inflated in the side branch, then the one in the main branch –crush., the original technique is replaced in mini crush in order to reduce the overlap of the stents in the proximal part of the main branch.

1. The guides are placed and the pre-dilation is made in the main and side branches.
2. The stent is first placed in the side branch, then into the main branch.
3. The stent out is pulled of the side branch so that about 3 mm of it are in the main branch.
4. The stent is inflated in the side branch.
5. The balloon is removed from the stent in the side branch and the side branch is assessed whether it needs additional action.
6. The stent is inflated in the main branchand the balloon is removed from it.
7. Postdilation of the side branch through the stents
8. Postdilation of the side branch with a noncompliant balloon.
9. A second balloon is placed in the main vessel and the kissing is performed.

Similar to this, the mini crush technique gives a possibility for full cover of the plaque. The advantages of the culotte technique is the need for re-passing only in the side branch instead of the two branches as in culotte technique.
A variation of the mini crush is step crush technique. It is more useful when planning is decided to use two stents. The main difference is that the stent prominent in the main

vessel of the side branch is squeezed with a noncompliant balloon. Then the stent is positioned and inflated in the main branch. Some operators prefer to make kissing with balloons before positioning the stent in the main branch.

E. V stenting and SKStechniques.

Both techniques imply the simultaneous implantation of the stents in the main and the side vessel. The only difference between the two is the stent size -protrusion in the proximal main branch. A small protrusion is called V-stenting, a large protrusion over 5 mm-SKS technique or kissing stenting

1. The guides are placed and the main and side branches are pre-delated.
2. The stents are positioned in the main and the side branch with a minimum or a larger protrusion to the proximal part of the main branch.
3. Both stents are inflated up to about 12 atm are inflated simultaneously.
4. Postdilatation of the two stents simultaneously with noncompliant balloons.

Vtechnique is suitable for the stenoses type Medina 0.1.1. These techniques are easy to implement. The disadvantages are that a new carina is made and in case of poor positioning of the stents there may be an unsatisfactory result in the main branch. Additional intervention may be necessary in the main branch, thetechnique is suitable for the type Medina 0.1.1.

It is difficult to choose the most suitable technique when using two stents. The following recommendations may be used:

- With Medina 0.1.1 – V stenting
- -With a true bifurcation angle of about 90 degrees - T technique
- For real bifurcation with a bifurcation angle below 70 degrees – mini crush technique.

LM bifurcation lesions

Data from the literature are contradictory about whether to take PCI or CABG in case of non-projected LM stenosis. CABG hides a greater risk of stroke while PCI – a risk of restenoses. The solution should be taken consideringthe complexity, considering whether or not isolated stem stenosis is involved or a three-branch coronary disease. SYNTAXscore is useful in making such a decision. When deciding on PCI, it is appropriate to control the dilatation with IVUS.

The main branch of LM stenoses includes the stem and the LAD. Ramus circumflexus is recommended for a side branch. The size of this branch and the spread of the plaque in it, determines what technique will be chosen.

Provisional technique with one stent is suitable for patients with only ostial or minimal plaque in the circumflex artery. It is also suitable for patients with small circumflex – under 2.5 mm, diffuse patients or vascular supplying small section of the myocardium. All other cases require two-stent technique.

If the diameters of the LAD and the circumflex are identical and are significantly affected, it is appropriate to first to stent the branch, which is more angulated, and the stent to be placed in the stem. This implies easier passage through the stent struts with a

guide, balloon or stent. This also applies to non-stem stenoses where the size of the two branches is equivalent

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PREVENTION OF DIFFERENT ATHEROSCLEROTIC DISEASES: DOES EFFECT OF PREVENTIVE MEASURES DEPEND ON LOCATION OF THE ATHEROSCLEROTIC PROCESS?

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Summary: As ethiopathogenetic mechanisms involved in different atherosclerotic diseases are similar or identical, the effect of treatment of risk factors on atherosclerotic lesions in different parts of a vascular system is expected. The data from clinical trials have shown that elimination of risk factors for atherosclerosis reduce cardiovascular events and improve prognosis, not only in coronary but also in cerebrovascular and peripheral arterial occlusive disease. There are some differences concerning efficacy of distinct drugs used in secondary prevention of different atherosclerotic diseases, but it seems that the effect of drugs used in prevention of atherosclerosis is much more dependent on the total cardiovascular risk and the stage of disease than on its location.

TRICUSPID VALVULAR MYXOMA: A RARE CASE OF TRICUSPID VALVE MYXOMA COMBINED WITH ATRIAL SEPTAL DEFECT IN PATIENT WITH ISCHEMIC CEREBRAL INFARCTION AND PULMONARY EMBOLISM

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Poster presentation:

Background: Primary cardiac tumors are extremely rare- only about 5% of all cardiac tumors, with myxomas being the most common primary tumors of the heart, with a frequency between 30% and 50%. Generally they are localized in the left atrium- about 75% of all cases. In the main this kind of tumor is pedunculated, with its stalk rising from the left side of the interatrial septum, at the border of fossa ovalis. In exceptional cases myxomas can be found in unusual and atypical locations, including the right atrium- 18% and the left or right ventriculi- 6%. The tumor can also arise from the valves- in less than 1% of all cases. Such a rare location is associated with difficulties in the diagnosis, due to the diversity of the clinical manifestations and frequent variability in the macroscopic appearance. The rare position can also be an obstacle for effective surgical treatment, because of the disturbed intraoperative visualization and complicated total tumor resection. Although myxomas are benign tumors, their presence may lead to variety of serious medical conditions and death, and therefore must be surgically removed once

being diagnosed. One of the complications of myxoma is embolism, which is associated with high morbidity and mortality. A rare case of myxoma, attached to the anterior leaflet of the tricuspid valve, arising from the papillary muscle combined with ASD in patient with ischemic cerebral infarction and pulmonary embolism, was operated in the Department of Cardiac Surgery in University Hospital Acibadem CityClinic Sofia, Bulgaria.

Methods: Preoperatively it was used CT- scan, TTE, TEE, as well as 3D Echocardiography to be determined and confirmed the exact location of the tumor and the structures involved in the process. The patient has suffered chest trauma and due to suspected pleural adhesions we decided not to use right mini-thoracotomy approach and median sternotomy was performed. Intraoperatively it was used crystalloid Bretschneider cardioplegic solution, right atrial approach and the tricuspid valve was replaced with biological valve prosthesis. Histological examination confirmed the diagnosis of myxoma.

Results: There were no postoperative comlications- bleeding, *embolic incidents, infection, need of reoperation or tricuspid regurgitation. The patient was dehospitalized 6 days postoperatively in good health condition.*

Conclusion*: In cases with myxoma with atypical and unusual localization such as the tricuspid valve, the effective surgical treatment requires optimal intraoperative visualization and total extirpation of the tumor. For this to be accomplished of primary importance are improved diagnostics, optimal strategy and timely surgery, which will provide excellent short and long-term results.*

GASTROENTEROLOGY. TRANSPLANTATIONS

MODERN TECHNOLOGY ACCELERATED THE RECOVERY AFTER SURGICAL OPERATIONS OF THE INJURED IN THE CHEST

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Background: Currently, there is a significant change in the tactics of management of patients in the perioperative period. This is due to new approaches to the preparation of patients in the preoperative period, to anesthesia, the introduction of methods that reduce the stress response of the body to an operating injury, as well as the use of minimally invasive surgical interventions. This led to the concept of Fast Track Surgery (FTS). Danish professor H. Kehlet proposed a multimodal approach to influence all stages of the perioperative period to reduce the incidence of complications and the length of stay of patients in hospital. The concept was further refined and expanded. Currently, the term Fast Track Surgery has been replaced by the concept Enhanced Recovery After Surgery-ERAS

The aim of our study: was to study the effectiveness of the ERAS program in the treatment of patients with chest injuries.

Methods: In the period from 1985 to 2014 163 patients with open chest injuries were treated in the thoracic surgery department of 432 Main military clinical medical center of the Armed Forces of the Republic of Belarus, which accounted for 32,3% of all chest injuries. Of them 113 (69,3 %) of the injuries were caused by a firearm (ORG), 50 (30,7%) – piercing and cutting items. The basic scheme of treatment of the wounded in the chest with the inclusion of the ERAS program consisted of: effective elimination of pain in the perioperative period; early and complete drainage of the pleural cavity; sealing and stabilization of the chest wall; measures aimed at rapid expansion of the lung; elimination of bronchial obstruction and maintenance of airway patency; the predominant use of video-thoracoscopic surgery; standard antimicrobial prevention; maintaining adequate volume of infusion; early postoperative oral feeding and mobilization of victims. Surgical treatment of wounds was performed in 11 (10,0 %) patients. Thoracotomy was performed in 12 (10,6 %) patients with ORG. 13 (11,5 %) wounded with ORG made video-assisted thoracoscopic surgery (VATS) operations.

Results: Postoperative complications were 58,3% after thoracotomy and 19,3 % after pleural cavity drainage. Postoperative complications were minimal (7,7 %) after VATS operations. The duration of inpatient treatment after thoracotomy was of 57,3±2,1 a day after a VATS operational benefits of 28,1±2,3 days.

Conclusion: Crucial in the program of "Enhanced Recovery After Surgery" in the treatment of victims with gunshot wounds to the chest belongs to optimal pain management in the perioperative period and the implementation of video-assisted thoracoscopic operations. The introduction of technologies of accelerated recovery improves the results of surgical treatment of wounded with gunshot wounds of the chest and reduces the duration of hospital treatment by 2 times, the level of postoperative complications by 7 times, minimizes postoperative mortality.

EX-VIVO NORMOTHERMIC LIVER PERFUSION: EFFECTS OF TWO DIFFERENT BLOOD FLOW

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During the last 10 years, much attention has been paid to the development of new, dynamic methods for the preservation of organs that optimize the organ before implantation and, therefore, improve the long-term results of transplantation. The perfusion conditioning method makes it possible, by artificial circulation of preservative solution/blood in ex vivo transplants, to ensure their thermal stability, remove metabolic products and catabolic enzymes, deliver energy substrates, protect the microcirculatory bloodstream and ensure oxygen delivery to the tissues.

The positive experience of perfusion conditioning of liver transplant is based in part on the use of the existing commercial models of perfusion apparatus. In these devices organ perfusion is carried out by two centrifugal (or roller) pumps. These pumps provide laminar (non-pulsating) blood flow, which causes a decrease of blood flow in organ, oxygen “starvation”, accumulation of metabolites, violation of the acid-base state and other pathological changes. With one pump, solution/blood is pumped into the portal vein, and with another into the hepatic artery. An oxygenator is included in each of these circuits. This circumstance, together with the aforementioned disadvantages of the centrifugal pump, complicates the design of the entire apparatus and its control.

Authors in the Scientific-Research-Training Center (SRTC) of Experimental Surgery of Institute of Morphology (TSU) created an experimental model of a perfusion system for perfusion conditioning of the liver transplant, which passed the bench tests. In the developed system used one volumetric blood pump, which provides a pulsating flow. From the pump, blood through the oxygenator in a pulsating mode is pumped: a) into the hepatic artery and b) into a soft-shell reservoir. In this reservoir pulsation is "extinguished" and the blood already by the laminar flow entered into the portal vein by gravity, since the reservoir is located 40 cm above the organ. Thus, by controlling the operation of one pump and the positioning of the inlet and outlet pinch valves, this system can implement the parameters of pressure, volume and nature (pulsating, non-pulsating) blood flow in the desired limits separately in the hepatic artery and in the portal vein.

Bench tests revealed that in the selected range of blood flow, which includes the minute volume of blood circulation of any organ, the hemodynamic parameters realized by the pump were within the physiological norm with both pulsating and non-pulsating flow. This circumstance is a prerequisite for improving the process and results of perfusion conditioning of the marginal liver.

ENHANCED RECOVERY AFTER SURGERY

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The scientific basis of surgery goes back to almost 250 years. Since Lister's era, many advances have been made and nowadays technology gives surgeons the capability of doing almost everything. Almost thirty years ago evidence based medicine came into the scene. Several years later, Kehlet addressed the concept of fast track surgery. This gradually evolved to enhanced recovery after surgery (ERAS), we have today.

The aim of the ERAS program is early ambulation, feeding and discharge from the hospital. The program has a preoperative arm which focuses on nutrition and education. During the operation analgesia and avoiding fluid overload and insertion of tubes are the more critical steps. After the operation care is taken mainly on analgesia, ambulation and nutrition.

Following these protocol many centers, who have adopted the ERAS program, have reported impressive results on reducing complications and cost and above all, on improving patients' satisfaction.

The basic principles of ERAS will be presented.

SHOULD PREOPERATIVE BILIARY DRAINAGE BE ROUTINELY PERFORMED FOR OBSTRUCTIVE JAUNDICE WITH RESECTABLE TUMOR?

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Obstructive jaundice is a common clinical manifestation of malignant lesions adjacent to extra hepatic bile duct, ampulla or pancreatic head. Animal experiments and some clinical observations have demonstrated that preoperative biliary drainage could improve liver function as well as reduce endotoxemia, thereby reducing the incidence of perioperative complications. However, a number of randomized, controlled studies have found that preoperative biliary drainage failed to improve prognosis or reduce the incidence of perioperative complications; in contrast, it might increase the incidence of septic complications with all consequences and cause extra financial burden on medical service. Thus, whether preoperative biliary drainage should be performed or not is controversial. Since clinical randomized controlled studies are more relevant in clinical settings, we believe that preoperative biliary drainage should not be routinely performed for obstructive jaundice with resectable tumors. This is confirmed by our unsuccessful clinical case described: female, 50, tumor of extrahepatic bile ducts; obstuctive jaundice; preoperateve biliary drainage; resection of extrahepatic bile ducts with choledojejunal anastomosis, complicated with liver abscess; debridgement of necrotic tissues of 7-th segment of liver with sanation and drainage; peritonitis due to perforation of acute ulcer

of ilium, ressolved by ileostomy, sanation and drainage of abdomen, lethal outcome due to recurrent liver abscess and sepsis.

ROBOTIC SURGERY

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Robotic surgery is a surgical procedure which uses a robotic system as a means of interaction between the surgeon sitting in a remote area and the patient. Robotic surgery constitutes a major improvement compared to the former minimally invasive techniques concerning the efficiency, accuracy, ease, and comfort associated with these operations. Robotic systems succeeded in overcoming limitations of the precedent techniques, providing fine motor control, 3D magnified view and articulated instruments. Since these procedures can now be performed through very small incisions, patients experience a number of benefits compared to open surgery, including less trauma, decreased blood loss and faster recovery. Although the current level of evidence is insufficient to support widespread adoption, robotic surgery is now broad-based in even the most complicated procedures of multiple surgical specialties like Gastrointestinal surgery, Cardiac surgery, Gynecology, Neurosurgery, Orthopedics, Pediatrics and Urology.

Our presentation addresses the pros and cons of this new technique as well as its established uses in different specialties.

CASES OF UNCOMMON IMPLANTATION SITES OF ENDOMETRIOSIS

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Endometriosis is defined as the presence of normal endometrial mucosa abnormally implanted in location other than the uterine cavity. It occurs in 6-10% of women. The majority of endometriosis cases are affecting organs of the pelvis while uncommon implantation sites exist in a much lower incidence, like abdominal wall endometriosis (0,4-0,1%) and endometriosis of the extraperitoneal portion of the round ligament, which is extremely rare.

In the surgical clinic of General Hospital Amalia Fleming we came across a number of uncommon implantation sites of endometriosis. Two of these are going to be presented in this paper. The extrapelvic implantation of endometrial cells can occur either through lymphatic or vascular spread but also iatrogenic deposition has been reported in cases following c-section or gynecologic procedures. The 1st case is a 40years old woman with 2 previous c-sections presented with endometriosis on the rectus abdominis muscle sheath diagnosed by MRI. The 2nd case is a 30years old woman with no previous history of surgeries or c-section presenting with a hard lump in the right inguinal region. The patient was submitted to U/S and MRI tests from which no clear diagnosis has been made. Both

of them underwent surgical exploration with excision of the lump. Both specimens were send for histopathology test where the diagnosis of endometriosis was confirmed.

In conclusion, endometriosis of uncommon sites can be difficult to diagnose and surgical excision is compulsory. However confirmation of the diagnosis is always made by histopathology testing.

MORPHOLOGICAL CHANGES IN LIVER AFTER OF 8-HOUR PRESERVATION BY MACHINE PERFUSION

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The work was performed in the framework of the project "New Machine-Perfusion Organ Preservation “in situ” (experimental study)", funded by the Shota Rustaveli National Science Foundation of Georgia

Introduction: Patients with refractory cardiac arrest, who have undergone Extracorporeal Life Support (ECLS) for resuscitation, but have not achieved cardiac recovery, can be considered as potential donors (Cardiac Death Donors). In such cases, it takes time to notify and obtain the principle consent of the relatives and finalize the clinical and legal documents. During this time, prior to obtaining consent for the removal of organs, ECLS can be extended. In this case, the extracorporeal circulation implies organ preservation "in situ" until the ethical, religious and organizational problems should be decided. Correspondingly, the identification of safe time terms during which the donor organs do not suffer by the changes not compatible with transplantation is extremely important.

We aimed to study the morphological changes in the liver after 8 hours of extracorporeal circulation in experiments.

Materials and methods: The investigation was performed on 6 sheep with simulated cardiac arrest and undergone 8-hours extracorporeal circulation with own blood by using of new portable perfusion apparatus, made on the basis of a universal volumetric blood pump of our own design. The device was connected to the body through the femoral artery and vein with special cannulas. The biopsy of the liver was performed before the starting of perfusion, and on 4 and 8 hours of the experiment. The histological slices were stained by H&E and were assessed by standard criteria: level of steatosis (large-droplet macrovesicular steatosis [ld-MaS] and/or small-droplet macrovesicular steatosis [sd-MaS]); mononuclear portal inflammatory cell infiltrates; bile ductular proliferation; cholestasis; venous congestion; hepatocellular necrosis.

Results: Before the perfusion, no venous congestion, hepatocellular necrosis or ld-MaS were observed; Less than 3% of cells were suffered by sd-MaS; mononuclear portal inflammatory cell infiltrates were found only in several areas. Mild mixed ld-MaS and sd-MaS was found in less than 5 % and 10% of the cells accordingly on the 4 and 8 hours after "in situ" machine perfusion. Similarly the mild venous congestion was present in 1 out of 6 livers after 4-hours perfusion and in 2 out of 6 livers after 8-hours Perfusion. The number of necrotic hepatocytes and portal triads infiltrated with mononuclear cells did

not exceed 10% and 15% accordingly. However, there were no differences in the degree of biliary damage – cholestasis or ductular proliferation - correlating with the terms of the experiment.

Conclusion: Taking into the account all internationally accepted criteria of donor liver histological assessment, 8-hour "in situ" perfusion of the liver in Cardiac Death Donors by using of the machine of own design providing the pulsatile blood flow guarantees the satisfactory preservation of liver making it useful for successful transplantation.

Key words: *Liver preservation, Machine perfusion, Macrovesicular steatosis, Venous congestion*

HEMATOPOETIC STEM CELL TRANSPLANTATION AND HODGKIN LYMPHOMA

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Hodgkin lymphoma (HL) is a highly curable hematological malignancy; almost 80% of the cases that are diagnosed in advanced stage can be cured with the combination of conventional and involved field radiotherapy. Unfortunately, up to 10% of the treated with ABVD as first line therapy demonstrate to be primary refractory and up to 30 to 40% of the patients that achieve a complete remission (CR) with first line treatment, eventually relapse.

Two prospective clinical trials indicate that autologous hematopoietic stem cell transplantation (auto-HSCT) is able to significantly improve freedom from treatment failure in these subsets of patients over conventional salvage chemotherapy and because of this, auto-HSCT is the standard of care in this situation. Unfortunately, up to 50% of the patients consolidated with auto-HSCT relapse after the procedure; long term outcome of most of these patients is quite dismal although there are some prognostic clinical factors at the time of relapse that modify overall survival (OS) of these patients after relapse. Allogeneic stem cell transplantation (allo-HSCT) either from a HLA compatible sibling donor or a matched unrelated donor has been introduced as one of the therapeutic option for those patients that relapse after auto-HSCT, do have a HLA identical donor available and have chemosensitive disease at the time of transplant. Retrospective studies indicate that for those patients with a donor and able to reach the transplantation point, allo-HSCT is able to offer significant benefits in terms of both progression free survival (PFS) and overall survival (OS) and clinical trials that show a decrease of non-relapse mortality (NRM) and an improvement of PFS for those patients undergoing transplantation in chemosensitive disease. Improvement of supportive measures as well as in the experience of the transplant centres and a better selection of patients could account for these changes The use of the Baltimore platform in the setting of haploidentical stem cell transplantation has significantly increased the number of potential candidates for allo-HSCT in this setting, specially taking into consideration the promising results obtained in this disease. Registry studies indicate that haploidentical donors are able to offer at least as good long-term outcome than HLA identical siblings and matched unrelated donors.

On the other side, new drugs have been developed for patients with relapsed/ refractory HL. The use of brentuximab vedotin single drug in patients that relapse or progress after auto-HSCT demonstrates an improvement in PFS of 20% with some patients being alive and disease free. Consolidation treatment after auto-HSCT with the same molecule in patients at a high relapse risk after the procedure has enabled to increase the number of patients being potentially cured with the procedure. The efficacy and the low toxicity profile of check point inhibitors (e.g. nivolumab, pembrolizumab) in relapse / refractory HL have also been demonstrated in this setting.

Changes in transplant activities over the study period include steadily increasing numbers of auto-HSCT and allo –HSCT in relapse/refractory Hodgkin lymphoma with significantly improvement of results in terms of overall survival, nonrelapse mortality, relapse rate for both auto-HSCT and allo–HSCT. In addition, in allogenic transplant setting there is an increased number of allo-HSCT after first auto-HSCT with more frequent used of reduce-intensity conditioning as well as matched unrelated and haploidentical donors.. The impact of the introduction of new treatment modalities (anti-CD30 monoclonal antibodies, check point inhibitors) in the number of HSCT is difficult to ascertain at this point.

UNUSUAL CASE OF FEMORAL HERNIA WITH STRANGULATED TRANSVERSE COLON AND PERFORATION

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Introduction: A hernia is defined as an abnormal protrusion of an organ or tissue through a defect in the abdominal wall. A femoral hernia occurs in the femoral canal and occurs less commonly than inguinal hernias and typically account for about 3% of all groin hernias. Femoral hernias are rare in men while common in women with a female-to-male ratio of about 10:1. Strangulation is the most common serious complication of a femoral hernia and these hernias have the highest rate of strangulation (15% to 20%) of all hernias. Strangulation refers to a vascular compromise to the contents of a hernia.

We present a case of strangulated transverse colon in female patient with femoral hernia on the right side. Having in mind that this hernia passes through femoral canal which is very small it is highly unusual for a colon to enter femoral canal. Review of the literature available to as showed no previous case of this type of hernia published so far.

Case: A 55 year old female was admitted in Emergency department complaining of nausea/vomiting, abdominal distention, abdominal pain and a decrease in bowel function with an absence of flatus/ bowel movements two days ago. On the physical exam a large bulge in the right inguinal region was a predominant finding. The skin was red end tender consistent with strangulated hernia. A CT scan was consistent with strangulated hernia that is next to right femoral vein. A fluid in the peritoneal cavity with pneumoperitoneum was also seen. The patient was oliguric with high creatinin and urea values from acute renal failure. The patient had leucocitosis of 22.000 and CRP of 334.

After initial resuscitation with fluids, electrolytes and antibiotics a decision for operation was made. Patient was operated with midline incision. Surprisingly the

transverse colon with part of greater omentum was seen entering the hernia sac below inguinal ligament into femoral canal. After cutting the Lacunar ligament the content of the hernia sac was mobilized. A gangrenous colon with perforation was documented. Since the patient had local peritonitis and because of the poor general condition a resection of the colon with colostomy was performed. The sizing of the femoral canal revealed that it was 3cm wide.

Conclusion: Femoral hernias present typically with a mass or bulge below the level of the inguinal ligament. Femoral hernias occur most commonly in women but lower incidence overall than inguinal hernias. Incarceration or strangulation is common with a femoral hernia due to the small size of the hernia neck or orifice. Usually because of small diameter the incarceration occurs on part of the small bowel (Richter type of hernia) or the omentum. In this case because of the large diameter of the femoral canal the incarceration happened to the transverse colon and we believe that this is the first case ever described so far.

ALTERATION IN PATIENTS' OXIDATIVE STATUS- LAPAROSCOPIC VS OPEN GASTROINTESTINAL SURGERY

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Introduction: Disturbance between the naturally existing in all healthy organisms steady state and sustainable balance between the levels of antioxidants and generation of free radicals, with capacity depletion of antioxidant protection system is known as oxidative stress. Oxidative stress is a significant factor in a range of patophysiological disorders and mechanisms which lay the foundations of different syndromes and diseases such as septic shock, several types of inflammatory, including chronical inflammation, onccology and neurodegenerative pathology, and last but not least surgical trauma.

Methods: The aim of the present study is to evaluate and make a comparison between the undergone therapeutic operative interventions (laparoscopic vs open gastrointestinal surgery) due to their influence on the antioxidant status of the included patients. In this pilot study we included twelve random adult patients from the Department of Surgery. Patients were divided in two groups depending on the used surgery approach - laparoscopic or open surgery. Apart from obtaining patient`s medical history (anamnesis), the medical documentation was inspected, patients were physically examined; their general condition- verified, routine -imaging, blood and biochemical tests were conducted, the operative treatment was accomplished, as well. Peripheral venous blood was collected on 1, 3, and 5 day of the hospitalization. Determination of the patients' oxidative status was carried through spectrophotometric methods – thiobarbituric acide reactive species (TBA-RS) assay in blood plasma and measure of the total antioxidant activity (TAOA) in different time periods of the treatment .

Results: The obtained data from this pilot study denoted statistically elevated antiradical properties and TAOA of the plasma samples collected from laparoscopic operated patients compared to the others who had open surgery. The antioxidant capacity (AO), which observed to be better correlates with lower amount of MDA (Malondyaldehyde) products i.e. decreased oxidative damages.

NEUROLOGY, NEUROSURGERY & PSYCHIATRY

ENDOVASCULAR TREATMENT OF CEREBRAL ANEURYSM – MODERN TRENDS AND WHERE DO WE STAND!

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Endovascular treatment of brain aneurysm is minimally invasive method performed to embolization of the aneurysm sac and to prevent main complications – intracranial hemorrhage. In these procedures are used different technical devices like platinum coils, stents, occlusion balloons, liquid embolizants and etc.

The last 15 years' endovascular techniques shown significant progress and development in treatment of aneurysms.

Since 2012 was developed Interventional neuroradiology department in our UH St. Ivan Rilski.

We present our experience and achievements from the last years – methods, strategy, complications and the follow up.

MORPHOLOGICAL CHANGES OF THE DENTATE GYRUS IN ALHEIMER'S DISEASE RATS' MODEL – THIOFLAVIN-S FLUORESCENCE ASSAY

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Introduction: Alzheimer's disease (AD) is a progressive neurodegenerative disease, reported as the source of over 70% of currently dementia cases. The disease is manifested by a prolonged preclinical phase with a gradual loss of dependence in everyday life, forgetting words and acquired skills, leading to a complete change of personality.The morphologic diagnosis of AD is based on the finding of bilaterally symmetrical beta-amyloid neuritic plaques and neurofibrillary tangles, containing phosphorylated tau-protein, that may occur independently from each other. Dentate gyrus (DG) is a main part of the hippocampal formation determined in the perception and consolidation of new episodic memories, spontaneous research of new objects from the surrounding environment and others.

Aim: The aim of our study is to extend the knowledge of morphology and distribution of amyloid plaques presented in the DG of Alzheimer's disease rats' model brains.

Material and methods: Six adult male Wistar rats were divided in two groups (3 per group). The rats were injected intracerebroventriculary with streptozotocin (STZ, the experimental model of sporadic AD) and saline (control group). Neuritic plaques in the DG were confirmed using thioflavin S stainingmethod and visualized by microscopy at 40x magnification.

Results: We observed the histological changes in the DG of the AD group and the control group threemonth after treatment with STZ. Thioflavine S fluoresces an apple green color under the fluorescence microscope. Our results showed accumulation of positive beta-amyloid neuritic plaques in the AD compared to the saline-theated group.

Conclusion: In conclusion, this study shares new information about the early preclinical stage of the AD. The collected data contributes to the concept that one of the key basic pathomorphological mechanisms is the significant accumulation of beta-amyloid in fields of the dentate gyrus.

RESULTS OF TPA TREATMENT IN A PATIENT WITH ACUTE ISCHEMIC STROKE IN A COMBINATION WITH MYOCARDIAL INFARCTION

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Introduction: Stroke is a type of cerebrovascular disease that involves the vessels of the central nervous system. Stroke is the third main cause of death after heart disease and cancer, and the first cause of severe disability. One third of fatal strokes occur before age 65 years. It usually occurs with sudden onset due to a burst of cerebral arteries, hemorrhage or occlusion by a thrombus or other particles ischemia, leading to focal brain dysfunction. Immediately, nerve cells depleted of oxygen in the involved vascular territory will be functionally disturbed and die if the circulation is not promptly restored. The most common type of stroke is the ischemic stroke – about 80 % of all stroke incidents.

When occlusion of an artery develops, blood flow in the periphery of the infarct core is usually reduced but still sufficient to avoid structural damage, so that the functional modifications of cells may be reversible if circulation is restored. This area of reduced blood flow around the ischemic center of infarct has been termed penumbra. About 1.9 million of neurons in the ischemic zone die each minute.

More than 20 years ago, the publication of the National Institute of Neurological Disorders and Stroke (NINDS) study shows the benefits of plasminogen activator (tPA) on treating patients with acute ischemic stroke. A summary analysis by Lees et al. in 2010 showed that rt-PA has moderately proven benefits between applied between 3 and 4.5 hours after symptoms onset, with greater benefit than earlier treatment.

A case report of a 66 – year – old acute ischemic stroke patient with myocardial infarction admitted at MHAT "Dr. Atanas Dafovski", Karzdahli and the outcomes of the applied tPA treatment.

Methods: A 66 – year old man was treated with tPA 2 hours and 20 minutes after acute stroke symptoms onset against a background of myocardial infarction. The provided tPA treatment has been appointed as priority treatment after an urgent consultation with a cardiologist.

Results: The patient has been admitted to MHAT "Dr. Atanas Dafovski" with changes in the speech, weakness and tingling to the right side, sweating and a score of 11 points according to the National Institutes of Health Stroke Scale (NIHSS). At discharge the NIHSS scores of the patients has been 5 showing a benefit of the provided treatment. Upon discharge from the Neurology department of the hospital the patient had a coronarography examination showing that coronary vessels are passable but with reduced lumen.

Conclusion: The provided tPA treatment may have helped to release the coronary vessels and has a positive impact on the condition of the patient.

POTENTIAL IMPLICATIONS OF GENETIC VARIATIONS IN MITOCHONDRIAL GENOME FOR SCHIZOPHRENIA DEVELOPMENT

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Introduction: Oxidative phosphorylation in mitochondria is the major source of aerobic energy for the functioning of neurons, and the key genes are located in mitochondrial DNA (mtDNA) – a molecule inherited mainly on the maternal side. A number of mitochondrial deficits have been established in schizophrenia but the efforts to identify the genetic markers in mtDNA predisposing to the disease are limited at present. The aim of the present pilot study was to search for pathogenic mutations or variants potentially associated with development of schizophrenia.

Methods: The study involved 19 patients (14 males and 5 females) with schizophrenia of an average age 49.18 years and the results were compared with those of 14 unrelated healthy controls (3 males and 11 females) of an average age 43.4 years. The Illumina MiSeq®System was used as a sequencing platform. The bioinformation data were processed using mtDNAVariantProcessor, mtDNAVariantAnalyser (Illumina), mtDNA-Server. The Positive and Negative Syndrome Scale (PANSS) was used to evaluate the mental status of the patients with schizophrenia; D. Goldberg'sGeneral Health Questionnaire (GHQ) with normative threshold for the Bulgarian population of ≤ 7 points was used in the screening of the healthy controls'mental status.

The initial results obtained by the NGS platform revealed presence of a total of 238 variants in the patients and 177 variants in the healthy people (single nucleotide variants, point mutations, deletions). Two pathogenic mutations were found in the patients, m.11778 A>G and m.4115 T>C, repectively, the latter being a newly identified one. The polymorphic variant m.1811A>G (MT-RNR2) was observed in 30% of the patients (1811G, P=0.0272) but not in the healthy people studied. A m.309.2c insertion and m.514d deletion were also observed only in the patients with schizophrenia (4/19). The K (K1b1c, K2a) mitochondrial haplogroup, which in principle is rare for our population, was found in two patients, whereas the remaining haplogroups did not show associative distribution.

Conclusions: Mitochondrial diseases are a relatively rare pathology, the incidence of which is approximately 1:8500. The establishment of two definitively pathogenic

mutations (one associated with Leber's hereditary optic neuropathy (LHON) and the other a newly established one in a conserved region of the NADH dehydrogenase 1 gene) in 19 patients with schizophrenia is a significant proof of a limited bioenergetic flexibility of mitochondrial oxidative phosphorylation. The polymorphic variant found at position 1811 participates in the encoding of the 16S ribosomal RNA and is a promising potential biomarker of the disease. The results obtained by us require expansion of the study by analyzing a larger number of patients, which would provide better understanding of the role of mitochondtria in schizophrenia development.

The investigation was carried out within the framework of a project entitled “Investigation of Mitochondrial DNA in Patients with Schizophrenia”, financed by Medical University – Sofia pursuant to Contract No Д-221/ 12 Dec., 2018 for Stimulation of Research in Areas with High Achievements – 2018.

NEPHROLOGY & UROLOGY. TRANSPLANTATIONS

KIDNEY TRANSPLANTATION PRACTICES IN THE SEE REGION AND NORTH MACEDONIA

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Kidney transplantation (KTx) is the best treatment option in patients with chronic kidney disease (CKD). Health-economics data favor the KTx in comparison with any type of dialysis procedure, but the multidisciplinary approach and required high level of organizational infrastructure are frequent impediments for its availability in the majority of developing countries. Another important issue is the growing gap between organ supply and demand that will continue into the foreseeable future. Possible reasons might be an insufficient data on the topic in the public domain, inadequate governmental financial resources, lack of public awareness, education and motivation for organ donation as well as the low number of organized teams of transplant surgeons and nephrologists, and lack of organizational infrastructure, i.e. coordinators.

Due to the limited access to KTx in developing countries, desperate patients have engaged in the purchase and sale of kidneys. The World Health Assembly and international transplant community urged member states to protect the poor and vulnerable from being exploited through illegal transplant practices and combat organ trafficking, transplant tourism and transplant commercialism as result from the Declaration of Istanbul (DOI). The South-Eastern Europe Health Network (SEEHN) and Regional Health Development Centre on Organ Donation and Transplant Medicine (RHDC) was established in 2011 to facilitate cooperation among SEE countries and improve organ transplantation by strategic planning and definition of country-specific action plan priorities. Further success of the donation and transplantation programes was influenced by the engagement of key professionals and the establishment of organizational infrastructure with the implementation of an appropriate funding model.

The DOI has provided an ethical framework for engagement of health professionals from SEE countries. The newly established SEEHN RHDC as a technical coordinating body greatly contributed in building institutional capacity and strengthening regional collaboration between health authorities and professionals within these countries for improvement of transplant activities in the Balkans.

Republic of N. Macedonia has greatly improved its mainly living but also and cadaveric kidney transplantation in the last couple of years. Mainly there is a dedicated surgical team devoted to the transplant program, for the first time we got national transplant a couple of hospital coordinators, and finally there were allocated resources for the program as a great stimulus for the appreciation of the professional work of multiprofessional teams involved in the transplant program.

TRANSPLANT PATIENTS WITH FAILING RENAL ALLOGRAFTS

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Progress in patient care and immunosuppressive medications has resulted in an improvement in the allograft survival in the early posttransplant period; however, there is a substantial graft loss afterwards. Recent publications show a 4% annual graft failure

among renal transplant recipients. Therefore, the number of patients returning to dialysis with a failed allograft is increasing year by year.

The outcome of these patients are controversial; most authors agree that mortality rates are higher as compared to the naive dialysis patients. The risk is even higher in diabetic cases and cardiovascular causes are the leading cause of death being followed by infections and malignancies. A couple of etiologies can be responsible for this unfavorable outcome: 1. Mostly there is a delay in returning to dialysis, 2. A rejected allograft can result in a chronic inflammatory state, which may cause malnutrition, hypoalbuminemia and increased cardiovascular risks, 3. Immunosuppression can sustain, even in the case of immunosuppressive drugs are discontinued.

A controversial issue is the type of dialysis after transplant failure. Actually, there is a concern that return to PD may be risky, because sustaining immunosuppression may predispose the patients to peritonitis. However, many studies suggest that dialysis modality does not have a significant effect on the outcome of patients with failed transplants.

Another controversy is the indications for graft nephrectomy after transplant failure. Maintaining a failed graft represents a chronic inflammatory state and transplant nephrectomy should be considered especially if there are signs and symptoms of graft inflammation. However, graft nephrectomy is a risky operation, which dictates that this operation should not be a routine procedure, but be performed only when indicated. For the time being, most of the grafts are left in place.

An important issue is how to handle immunosuppressive therapy in these patients. In the case of maintaining immunosuppression there is an increased risk of infections, cardiovascular diseases and malignancies, and also steroid related many side-effects, especially osteoporosis. On the other hand, discontinuation of immunosuppressants may result in loss of residual allograft function and also acute graft inflammation, which may result in spontaneous graft rupture. Taking together, immunosuppression is almost always discontinued in these patients because infections, a major cause of death after a failing graft, can be avoided by stopping immunosuppressive drugs.

Considering the sequence of cessation of the immunosuppressants, most of the time, firstly anti-proliferative drugs (azathiopurine, mycophenolic acid derivatives or mTOR inhibitors) are stopped; this is followed by withholding calcineurin inhibitors. Almost all authors suggest that steroids should be stopped lastly, following a slow taper. If possible, all immunosuppressants should be discontinued by the post-operative 6 months.

An important issue is retransplantation; many studies have shown a clear survival benefit of retransplanted patients when compared with the ones remaining on dialysis. Therefore, every attempt should be made for retransplantation, while only 15% of the patients will receive another transplant.

ABO INCOMPATIBLE KIDNEY TRANSPLANTATION

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Considering the shortage of available organs for transplantation and the growing kidney transplant waiting lists, efforts have been made worldwide to expand the live donor pool. Attempts to expand the donor pool include the crossing of blood group barrier

with ABO-incompatible (ABOi) kidney transplantation. ABOi kidney transplantation is very important since it can theoretically increase the number of kidney transplantation from living donors up to 30%. With almost 3 decades in practice worldwide, it remains a safe and viable option especially in countries like Greece, where the waiting time list is more than 8 years. Many different preconditioning regimens are used in ABOi kidney transplantation. Usually, the removal of antibody is made by plasmapheresis or immunoadsorption and the B-cell depletion by rituximab. Potent immunosuppressants are also given at least 15 days before transplantation. Although short and long outcomes initially reported similar to ABO-compatible kidney transplantation, more recent registry suggests inferiority to survival in ABOi kidney transplantation, especially within the first 3 years. Nevertheless, it is important to emphasize that recent metanalyses do not cover comparisons with ABO-compatible kidney transplantation from deceased donors or patients not transplanted who continued dialysis. Additionally, new preconditioning protocols with reduced dose of rituximab or no plasmapheresis have been used in some cases with very good outcomes, meaning that immunosuppressive regimens may have to be personalized. The alternative option of paired kidney exchange should always be given in patients with ABO incompatible donor.

MINIMALLY INVASIVE PERCUTANEOUS NEPHROLITHOTOMY COMBINED WITH HOLMIUM: YAG LASER FOR TREATMENT OF LARGE RENAL STONES

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Introduction: Miniaturized percutaneous nephrolithotomy (miniPCNL) was first introduced by Jackman et al. [6] for children. This method has been developed as an alternative treatment of conventional percutaneous nephrolithotomy (PCNL) by the use of a large size access shaft (24-34 F). Using a miniaturized nephroscope and 11 Fr access shaft, they have treated seven patients with an average stone size of 1.2 cm^2. In the following years, this technique was gradually adopted for elderly patients, initially used primarily for smaller stones and stones located in the calyx diverticulum, filling in the therapeutic gap between extracorporeal shock wave lithotripsy (ESWL) of urinary stones, flexible ureteroscopy (URS), and conventional percutaneous nephrolithotomy (PCNL) [8]. Meanwhile, the technique has been modified to "minimally invasive PCNL" (MIP), characterized by the use of a 12 Fr nephroscope and a 16/18 Fr access shaft with a continuous low pressure irrigation flow, enabling rapid and complete elimination of the stone from the kidney collecting system, without the use of a nephrostomy tube at the end of the procedure [12]. A research paper by Schilling et al. [15] reports that by 2010 this technique has completely replaced the conventional PCNL in their department.

The efficacy and safety of MIP in the treatment of patients with large stones and complex staghorn stones were questioned, mainly due to the limited diameter of miniaturized access, presumably leading to reduced visibility, prolonged operating time, and reduced stone-free rate [9]. Not only the size of the stone, but also its composition, location, renal function, kidney abnormalities, and related UTIs (urinary tract infections) have influence on the success of treatment [14]. In the present study, the stones were

classified as simple (isolated in the renal pelvis or isolated calyceal stones) or complex (partial or complete staghorn stone; stones in the renal pelvis together with calyceal stones), regardless of their size, as described by Tefekli et al. in 2008 [17].

The purpose of this retrospective analysis is to report our experience in the treatment of patients with complex large kidney stones (> 20 mm) using the technique of minimally invasive percutaneous nephrolithotomy combined with Holmium:YAG laser lithotripsy, focusing on the duration of the operation, complete elimination of concrements (Stone-free rate), levels of need for re-treatment, and the mean decrease in hemoglobin following surgery.

Patients and methods: All patients treated for large kidney stones (largest stone diameter on CT or ultrasound >20 mm) using MIP technique combined with a Ho:YAG laser at the Urology Clinic of University Hospital "Kaspela" from January 2017 to August 2018 were included in the study. The patients were subjected to MIP using a Nagele (Karl Storz, Germany) module miniature nephroscopic system with automatic pressure regulation as described further [11,16]. After the insertion of a retrograde urethral catheter (Urotech, Germany 6 Fr) for contrast the kidney collecting system, the patients were placed in prone position with an inflatable pillow placed caudally next to the xiphoid bone. Percutaneous access was obtained under combined (ultrasound and fluoroscopic) control. Single-step dilation was performed with a 14 Fr metal dilator and then a 16 Fr metal access shaft was inserted. Using a 12 Fr nephroscope, the stones were defragmented with a Holmium:YAG laser (Calculase II 20W, Karl Storz Germany) with a 600 μm laser fibre at constant visibility, and the stone fragments were evacuated by continuous irrigation without additional pressure or suction using the hydrodynamic effect of the MIP system. Only in cases of stone fragments in a position difficult for evacuation, they were taken out from the kidney collecting system by a 3 Fr nitinole basket (Urotech, Germany). At the end of the procedure an antegrade JJ stent was placed, and the renal contrast catheter was removed. The access shaft was slowly withdrawn from the patient and the nephrostomy tract was closed. In case of suspected residual fragments, we used to leave a nephrostomy tube 14 Fr to serve as an input entrance for re-manipulation.

Patients were examined with a simple X-ray (kidneys, ureters and bladder) and abdominal ultrasound on the first postoperative day. The levels of hemoglobin, serum creatinine and urea were tested before and after surgery. Clinical records were reviewed retrospectively for the following clinical parameters: stone complexity, duration of surgery (defined as time from puncture to closure of access routes), stone-free rate and complications such as significant decrease in hemoglobin level postoperatively.

The stones were classified as simple or complex regardless of their size. Patients were considered "stone-free" in the absence of any visible stone fragment on nephroscopy at the end of the procedure and post-operative X-ray and ultrasound diagnosis.

Results:Between January 2017 and August 2018, 38 patients with kidney stones> 20 mm were treated with minimally invasive percutaneous nephrolithotomy combined with Ho:YAG laser lithotripsy at the Urology Clinic University Hospital "Kaspela". Of these, 24 were male and 14 female, and their mean age was 52.8 years (Table 1).

Table 1.

Total number of patients	Male	Female	Mean age of patients
38	24	14	52.8

Overall, in 22 (57.89%) patients the stones were classified as complex, while the remaining 16 (42.11%), had simple stones. The average (gamma SD) size of the stones was 31.5 mm (Table 2).

Table 2.

Number of patients with stones	Complex	Simple	Average size of the stones
38	22	16	31.5 mm

In all 38 patients, access to the kidney was via the inferior group of calyces. All punctures were subcostal - none of the punctures was above the 11th rib intercostal area.

The mean (SD) duration of surgery was 99.2 min. The mean (SD) operating time for complex stones was not significantly longer than for simple stones - 104.7 versus 90.7 minutes (P = 0.2) (Table 3).

Table 3.

Average duration of the operation	Average duration in complex stones	Average duration of simple stones
99.2 min	104.7 min	90.7 min

The mean (gamma SD) reduction in hemoglobin level was 4.2 g/dL, which we did not consider to be a significant difference compared to the baseline level. There was no significant difference between the two groups (p = 0.5),

In general, 29 out of 38 cases (76.32%) were released from the stones after the first procedure. Four patients (10.53%) were subjected to a second MIP, and five (13.16%) - to ESWL (Table 4).

Table 4.

Total number of patients	Stone-free	Second MIP	ESWL
38	29	4	5

Discussion: Percutaneous access to the kidney collecting system results in a high rate of complete elimination of the concrements. This is also the main reason why this technique is recommended as a means of choice for kidney stones measuring > 20 mm in diameter [18]. PCNL is generally considered a complex procedure, although it is safe and effective in experienced hands [10]. Conventional PCNL is usually performed by renal access with a 24-34 Fr access shaft diameter and a semi-closed irrigation system. Reducing the size of the kidney access shaft has led to the possibility of using miniPCNL [5]. At the same time, it has been evident that miniPCNL can reduce blood loss and blood transfusion levels compared to conventional PCNL [7]. In an attempt to further reduce the susceptibility to complications, the MIP procedure is applied, which is characterized by size 16 Fr of the access shaft, one step dilation technique, continuous low pressure

irrigation, and this, in turn, allows rapid elimination of the stone without the use of extra endoscopic extraction tools. Although the MIP concept results in complete stone clearance in 92.9% of patients with kidney stones <20 mm [12], its use in patients with larger stone is still questionable. Great importance is attached to the smaller access and the supposedly reduced irrigation flow, which in turn lead to a deterioration in visibility, difficulty in working with additional endoscopic instruments, and therefore reduced stone-free rate [4,9]. The purpose of this retrospective analysis is to determine the safety and effectiveness of the MIP concept in the treatment of kidney stones with a diameter > 20 mm.

The primary stone-free rate for all MIP procedures in our patients was 76.32%. These results are similar to the stone-free rates in a large multi-institutional international prospective study conducted by the Clinical Research unit of the Endourological Society (Croes). In 5803 patients undergoing conventional PCNL, the stone-free rate was 75.7%, with a secondary intervention rate of 15.5% [2]. It is worth mentioning that the patient group is very heterogeneous, including various surgical techniques, for example, PCNL with prone and supine positioning, presence of small stones with diameter < 20 mm and complete staghorn stones. Several complicating factors, apart from the stone size, influence the success of the PCNL procedure: Tefekli et al. [17] suggests a classification into simple and complex kidney stones, with complex renal stone being any staghorn stone or stones in the renal pelvis and accompanying stones in the calyces.

Having in mind that the average size of the stone in this analysis (31.5 mm) is greater than in the above-mentioned studies, it can be assumed that the complete elimination of stones is not affected by the smaller diameter of the access shaft. Extraction of the stone using the “vacuum effect” in continuous low pressure irrigation [13] without the need for extra endoscopic extraction tools may actually contribute to effective stone clearance and speed up the procedure.

There is contradictory data whether miniaturization of the access tract necessarily results in longer operating time (OR-time) for larger stones. A comparative study in 180 patients undergoing conventional or miniPCNL found significantly longer operating time for miniPCNL in regular stones (89.4 vs. 77.0 min), Staghorn stones (134.3 vs. 118.9 min), and multiple stones (113.9 vs. 101.2 min) [16]. In contrast, in a prospective comparative study of conventional and miniPCNL for 50 consecutive patients, Knol et al. [7] noted that there was no significant difference in operating time in patients operated with an 18 F access shaft compared to 26 F (miniPCNL 48 minutes vs. PCNL 57 min). However, the authors argue that this fact may be due to the differences in the stone in the two groups. The average operative duration in our study is 99.2 min.

Several aspects can result in reduced operational time in MIP, namely, one-step dilation of access tracts and a “vacuum effect” allowing fragments to be extracted quickly and without the need for extra endoscopic extraction tools. The so-called "vacuum effect" is a hydrodynamic effect due to the difference between the internal diameter of the access opening and the outside diameter of the nephroscope. In continuous irrigation a low pressure laminar flow is achieved through the access opening. Turbulence, occurring at the top of the nephroscope allows suction of stone fragments, located into the kidney collecting system.

A major problem with conventional PCNL is the significant blood loss, as well as the need for blood transfusion. In the current study, the mean decrease in hemoglobin was 4.2 g/dL. Contemporary studies indicate similar levels of mean decrease in

hemoglobin [3]. Overall, a reason for the lower level of hemoglobin values in MIP may be the smaller parenchymal trauma and the reduced risk of injury to larger segmental kidney vessels with the small-caliber dilator while obtaining access to the kidney. In other studies, a reduction in post-operative transfusion rates has been reported [1]. Although the loss of blood seems to depend on the size of the stone and its complexity, there was no significant increase in blood loss with a stone size increase ($P = 0.4$) and there was no significant difference between simple and complex stones ($P = 0.5$).

Conclusion: Our retrospective analysis of 38 patients treated with minimally invasive percutaneous nephrolithotomy combined with Holmium:YAG laser lithotripsy shows that this approach is effective not only for small stones but also for patients with large and complex stones. The method has stone-free rates comparable to those in conventional PCNL and is equally effective even in complex kidney stones. There is a tendency towards a longer duration of operation, but nevertheless minimally invasive access to the kidney and low blood loss are huge benefits. This technique can be an equally effective method, as is the conventional PCNL, regardless of the size of the stone.

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PEDIATRIC KIDNEY TRANSPLANTATION: THE GREEK PROGRAM

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Introduction: National pediatric transplant cohort studies with longitudinal follow-up data available from childhood to adulthood may provide information about the factors affecting the outcome of pediatric kidney recipients with similar population characteristics in order to improve patient care by both pediatric and adult nephrologists.

Methods: We performed a retrospective analysis of all pediatric kidney transplantations performed in Greece during the period 1990 to 2012.

Results: During the period 1990 to 2012 one hundred thirty-seven (137) first pediatric kidney transplantations were performed in Greece, 75 (54.7%) from living related donors, and 62 (45.3%) from deceased donors. In 24 (34.3%) of the patients, living related donor transplantation was performed pre-emptively.

Patient survival at 20 years after kidney transplantation was higher than 90% corresponding kidney recipients' survival estimates from national and international transplant registries.

Overall graft survival at 5-, 15-, and 20 years post transplantation was 81.0%,

73.7%, and 67.2%, respectively. Living related donor transplantation in our national cohort had similar graft survival rates among all recipient age groups and superior to deceased donor transplantation at all time points after kidney transplantation.

Moreover, living related donor transplantation presented excellent patient survival from both parents and grandparents all over the follow up period. However, a decline to pediatric living donor transplantation has been documented over time.

The most common causes of end stage renal disease were congenital anomalies of the kidney/urinary tract (33.1%) and glomerulopathies (27.4%). Of note, our national cohort included children older than 2 years reflecting our center practice of delaying transplantation until pediatric patients are big enough to receive adult kidneys. Thirteen patients (9.5%) patients were in the younger age group of 2-5 years old, while 46% were school-aged children, and 44.4% were adolescents.

Risk factors for poor 5-year graft survival were graft primary non-function, and deceased donor transplantation. The effect of duration of dialysis on graft survival based on the results of univariate analysis was negligible at 5 years and lost significance at 10 years after transplantation.

Hypertension was a frequent complication in pediatric kidney recipients even years after kidney Tx. BP control by antihypertensive treatment was unsatisfactory in about half of the patients. The adverse effects of hypertension on graft survival appeared in the long-term with those being hypertensive patients at 10 years post transplantation having an 8.079 times higher hazard of graft loss compared to normotensives.

Conclusion: In our national cohort pediatric kidney transplantation from living donors irrespective of donors' age offered efficient survival outcomes even after a period on dialysis.

KIDNEY TRANSPLANTATION IN CHILDREN – LONG-TERM OUTCOME

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End-stage renal disease is a rare condition in children. Approximately 1-3 children per year start renal replacement therapy in Slovenia. Among the treatment modalities for end-stage renal disease, kidney transplantation remains the preferred therapeutic method in children because it improves growth, increases life expectancy, and provides a better quality of life compared to other modalities. Significant improvements in the outcome of kidney transplantation in children have been made in recent decades. However, there are many factors affecting patient and renal graft survival and long-term outcome. Donor and recipient age are important. According to literature, graft loss increases in children under 2 years of age and adolescents. There is also better graft survival in living related donation compared to deceased donated grafts. Patient and graft survival are significantly affected by infections, among which viral infections are more common. The most frequent complication of kidney transplantation is an acute rejection episode, which can also affect long-term outcome. Other factors that may have an effect on patient and graft survival include human leukocyte antigen matching, arterial hypertension, bladder dynamics, immunosuppressive regimen, repeat transplant, delayed graft function, underlying primary disease, recurrent disease, and adherence as one of the most important factors affecting renal graft survival. Adherence correlates with age and is the most common

problem in adolescence. Additionally, children and adolescents with kidney transplants are exposed to a high pill burden that can increase the risk of nonadherence and adverse treatment effects having a potential impact on renal graft survival. In our Slovenian study, we found that half of patients received more than 10 different drugs daily, resulting in over 23 pills per day, with immunosuppressive treatment being responsible for more than one third of the medicine load.

Kidney transplantation also has a significant impact on long-term socio-economic status and quality of life. We evaluated the long-term social integration and economic status in Slovenian patients from 1984 onward who reached adulthood. Almost 80% of patients have achieved a specific education level that may increase their chances for employment. However, only one third of them were employed at the time of analysis. We also found that one third of our patients were involved in a steady relationship, but only one tenth of them have offspring. Almost one fifth of our patients have been meeting friends regularly, which is in agreement with the fact that 60% of them expressed no particular worries and more than three quarters of them rated their quality of life as good or even excellent. Although our patients rarely mentioned any concerns, these were mostly related to their financial situation and employment and not to their health status.

In conclusion, kidney transplantation is the most favourable method for the treatment of end-stage renal disease in children. There are many factors influencing long-term outcome in these patients, acute rejection episodes and adherence being among the most important. Owing to the high medication and pill burden, strategies to reduce it should be developed in future. The impact of kidney transplantation in childhood on socio-economic status later in life and on the quality of life is substantial.

ETHICAL CONTROVERSIES IN KIDNEY DONATION

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Organ shortage is the one of the most important challenges of organ transplantation, resulting occasionally in ethically borderline or controversial practices. It was estimated that the number of kidney transplantations performed per year worldwide satisfy only approximately 10% of the need (Garcia Garcia G et al. Nature Rev Nephrol 2012).

Organ trading is widely condemned by transplant community. However, as concerns living kidney donation, there are some practices ongoing, that may be ethically challenging and are not a subject of wider attention. Some of them will be presented.

Social pressure to donate kidneys: "The Tyranny of the Gift": American anthropologist Nancy Scheper-Hughes published a remarkable article entitled "The tyranny of the gift: sacrificial violence in living donor transplants" (AJT 2007). The article argues that although we deal differently with living donors in poor countries, who are selling their kidneys, and living donors in developed countries who donate kidneys to their loved ones, both phenomena share similar social elements: the donors are often subjected to family pressure and calls to sacrifice.

Young living kidney donors: Kidneys can be donated by very young living donors. In some Canadian provinces, 16-year-olds can legally donate their kidneys. So it is legally possible to donate an organ (kidney) before the fully matured ability to assess the benefits and risks of organ donation is reached by an immature, evolving person. Young donors

can be financially and psychologically dependent on the elderly, for example, their parents, and it is sometimes difficult to assess whether organ donation was voluntary (Campbell M et al, AJT 2013).

Children who donated a kidney to their parents in 2008 were significantly more numerous than parents who donated a kidney to their children, a study of living kidney donors in America showed (Davis CL, CJASN 2010).

The long-term effect of unilateral nephrectomy is understandably more pronounced in young living donors. Gestational hypertension and preeclampsia have been shown to be more likely in kidney donors than in comparable pregnant women who have both kidneys (Garg AX et al, NEJM 2015). It was recently recommended that interest in living donors should be shifted to elderly donors, who will face the lowest risk after unilateral nephrectomy (Mjoen G, Abramowicz D, NDT 2018).

Public solicitation for organ donation: Obtaining living donors through social networks and other forms of public solicitation is part of today's reality. It is mostly specific, directed donation. The donor offers a kidney only to a specific recipient who is not in a family or emotional connection with the donor (at least not at the beginning). Public solicitation for organs from living donors is allowed in some countries, such as the United States, Canada, the United Kingdom, and the Netherlands. This method of organ providing, in which patients who need organs can also be evaluated on the basis of their personal appearance and biography, can be turned into a version of the “beauty contest”. Such organ donation may also involve hidden organ trafficking. Some authors argue that donors recruited through social networks or in other ways or by public addressing should donate organs to a fair system of organ allocation (as is the case with deceased donors), and not to specific donors. Therefore, they believe that the identity of patients who publicly ask for an organ should be hidden.

Voucher for the kidney: In the United States, a "voucher" kidney program has recently been introduced − a voucher for future kidney transplantation from a living donor. The key difference compared to the kidney paired donation lies in the fact that a living donor wants to donate a kidney to a specific recipient who currently does NOT need dialysis or transplantation, but he/she may (or may not) need transplantation in the future. However, the potential living donor may not be suitable for donation in the future. In this case, we speak of so-called "chronological incompatibility". To resolve the situation, the living donor donates a kidney to an unspecific recipient, starting the chain of kidney paired donation. His relative, to whom he initially wanted to donate the organ, receives the kidney “voucher” for the future. This kidney voucher gives him priority in the future chain of living donors and recipients when he would need a kidney. The kidney voucher cannot be transferred to another person (Veale VL, Transplantation 2017).

Conclusions: Living kidney donors have been in the past and will continue to be a very valuable source of organs for transplantation in the future. Global organ shortage requires that practices in living kidney donation should be carefully monitored in order to preserve public trust and support for transplantation and avoid today’s and future problems: social pressure on living donors, recruitment of young living donors and uncontrolled public solicitation for organs mainly through social networks.

In order to preserve and promote donation by living donors, we need to present to patients, potential donors and the public, in a transparent manner, the all aspects of living organ donation and practices that are present worldwide.

FACE TO FACE WITH THE CHALLENGES OF KIDNEY TRANSPLANTATION – AN OVERVIEW OF INSTRUCTIVE CASES

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Two decades ago, Croatia was lagging far behind other European countries with a low donation rate (2.7 donors pmp in 2000), and consequently with a small number of kidney transplants. The persistent efforts to organize and gradually improve the national organ transplant program in Croatia, have resulted in a steadily growing donor rate, which reached until today its highest level in 2015, with 37.9 utilized donors pmp. The transplant program is mostly based on deceased donors. There is a very low percentage of kidney living donors (8.3% in last 10 years), predominantly recipients' relatives (79.5%). Altruistic living kidney donation from unrelated individuals is allowed, but not encouraged. A sustained increase in organ donation rate was one of the preconditions for the Croatian full membership in the Eurotransplant (ET) in 2007 (at that time as only one outside the EU). Today, the Eurotransplant network consists of Austria, Belgium, Croatia, Germany, Hungary, Luxembourg, the Netherlands and Slovenia, serving a total population of around 136 million people. ET membership has provided a larger donor pool and and recipients makes it easier to achieve a better match between the available donor organs with the patients on the waiting list, thereby improving both the short-term and the long-term outcomes of transplantation. A special ranking on the waiting list and hence have a better chance of receiving an organ relatively quickly have children, high-immunised and high-urgency patients.

The key factors that have contributed to the development of a successful model for organ donation and kidey transplantation in Croatia in the past two decades were: 1. The legal regulation for deceased donation is based on a presumed consent, which means that body parts may be used for transplantation only if the deceased person did not make any written statement to be against organ donation. A non-donor registry has been implemented and maintained by the Croatian Ministry of Health; 2. The appointment of national transplant coordinator (since 2003, Mirela Bušić MD), together with eight transplant coordinators attending 24 hour duty desk at the Ministry of Health, and 32 transplant coordinators from hospitals. Both types are joined in the national coordination network; 3. Proactive approach and early identification of all potential donors, improvement and implementation of standardized protocols for optimal donor management; 4. Improvements in the screening of candidates for kidney transplantation, carefully pre-transplant patients evaluation, and waiting list management; 5. The implementation of a new financial model with donor hospital reimbursement, as an compensation for the lack of financial resources, inadequate salaries, and shortage of health personnel; 6. Long-term positive promotion of organ donation in all public media, encouraged by the National Ministry of Health, professional societies of the Croatian Medical Association (primarily CSNDT), Croatian Medical Chamber, patient associations and positive attitude of the authorities of religious communities, improved public awareness on organ donation; 7. A significant increase in organ donation rate prompted the European health community to recognize the Croatian model of organ donation and transplantation, what was one of the preconditions for the Croatian membership in the ET.

The number of donors has been stagnating in recent years in Europe or slightly increasing by 2% per year on average. Just the opposite, thanks to the unique model of organ donation Croatia for nine consecutive years, recorded one of the highest rates of organ donation in the world (> 30 pmp). In 2010, there was a record increase in the number of donors (64.9%) and the total number of solid organ transplants (57%). At the same time, the highest kidney transplant rate from the deceased and living donors of 56.7 pmp has been reported to date. The positive trend has stabilized and stands at 48 pmp between 2011 and 2018 (range, 39.7 to 55.2 pmp). In 2018, the number of donated and transplanted organs increased by 19% and 11%, respectively, compared to 2017. A successful donor program with a record rate of 41 acute and 37 realized organ donors (pmp) is equally successfully followed by solid organ transplantation programs (183 kidneys, 133 liver, 37 heart and 3 pancreas) with a total transplant rate higher than 86 pmp.

Thanks to good organization and increasing number of donors, a “senior program” was established in Croatia before joining the ET (2004), while experience with combined organ transplantation (kidney and pancreas) was sporadic. Following the ET approach, combined organ transplantation (kidney en bloc, kidney + pancreas, kidney + liver, and kidney + heart) is routinely done in Croatia, and preemptive kidney transplantation has started. The active waiting list in Croatia was reduced by 85.6% between 2000 and 2014. In the last 4 years on the waiting list are between 124 and 206 patients. The waiting time for the kidney has been reduced from 12 years (2007) to less than 12 months. In the meantime, the average age of transplanted (but also deceased donors) has increased, and the number of patients with second transplant. Due to better prevention and treatment conditions, the number of transplant patients with hepatitis B or C decreased and the first patients with AIDS were transplanted.

Croatia is an example that medium developed countries may follow the results of organ transplantation from developed countries only if there is consensus from the professional community and health policy on transplantation as a national, public health interest. Today Croatia belongs in the category of countries with the most effective transplantation system in the world.

The rapid progress of kidney transplantation has confronted us with many patients and problems, but also with interesting features that we have not encountered in practice before. Among them, I highlight the impact of long-term dialysis treatment on operative and postoperative complications, outcome after renal transplantation in elderly patients, post-transplant complications in patients with Balkan endemic nephropathy, people with mental retardation and Roma ethnicity. Furthermore, the challenge for the nephrological profession was presented by patients with various tumors that arose after kidney transplantation, transplant patients with rare diseases, acquired immunodeficiency syndrome and / or hepatitis C, as well as those with rare and bizarre complications.

It's always helpful to hear someone else's experiences so you may cope with a similar problem. Therefore, the message of this lecture is: Take advantage of your time by improving yourself, reading other writings. In this way you will easily gain what others have worked hard for.

SEXUAL MEDICINE

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REPRODUCTIVE HEALTH

LATEST NEWS ABOUT ASSISTED REPRODUCTIVE TECHNOLOGIES /ART/

Prof. A.Shterev, MD,PhD, SAGBAL "Dr. Shterev", Sofia, Bulgaria

Full overview for ART with a comprehensive update was made of 32 meeting-conference /29-31 July 2019/ in San Diego, United States. Twenty-seven speakers from all over the world were delivered over 35 lectures covering the main aspects of the reproductive medicine. Meeting was intended for the CME for doctors and other professionals working practically and theoretically in this field . Among the speakers were famous names as Dr. Antonio Pellicer, Professor of Obstetrics and Gynecology, University of Valencia, Spain, founder of Insituto de Infertilidad (IVI)., Dr. Clark Amander, Professor and head of the Department of molecular biology at the University of California, Los Angeles, Dr. Dominique de Ziegler, Professor of Gynecology, University of Paris, Gianpiero Palermo, Jacques Cohen, Denny Sakkas- Yale University and etc. Special attention was dedicated this year to the rapidly growing trend towards deferred embryo transfer, stimulation strategies for poor response and the role of mild ovarian stimulation, the optimization of culture media, application of Co-Q10 to improve mitochondrial function in women of advanced reproductive age, difficult cases with ICSI, the critical importance of single embryo transfer , maternal imunogenetics and practical aspects of the technique of embryo transfer. Mini Lab-Symposium, led by Dr. William Schoolcraft covered the safety of cryostorage, optimizing the embryo biopsy, improving embryonic metabolism in vitro, mechanisms of embryo self-correction , non-invasive methods for the evaluation of cultivated embryos. Audience of well trained professionals excite a lively discussion on the topics discussed.

THYROID DYSFUNCTION DURING PREGNANCY- DETERMINATION OF A TRIMESTER-SPECIFIC REFERENCE INTERVAL FOR THYROID STIMULATING HORMONE

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Pregnancy is a condition that leads to significant changes in the regulation, metabolism and respectively the levels of the thyroid hormones. The thorough knowledge of these changes is of enormous importance for the clinical practice and it stands as a basis for the diagnosis, monitoring and treatment of patients with thyroid dysfunction. The changes in the thyroid economy in pregnant women, compared to non-pregnant women, are the reason why the so-called trimester to be accepted - the specific range of the thyrotropin levels (TSH).

In Bulgaria, there isn't an established reference range for TSH during pregnancy. Therefore, we use the recommendations and criteria set by some of the most renowned professional associations such as The American Thyroid Association (ATA), The European Thyroid Association (ETA) and The Endocrine Society. The most commonly used are ATA recommendations, modified in 2017, according which, the reference

intervals for TSH during pregnancy are as follows- first trimester 0,4-4,0 mIU/L (anti-TPO- negative patients); second trimester 0.3-3.0 mIU/L; third trimester 0.3-3.0 mIU/l. Periodically, the use of a fixed range for TSH levels during pregnancy leads to inappropriate diagnosis and unnecessary treatment and can also lead to complications. The diversity among different populations in terms of ethnicity, socio-economic aspects and iodine prophylaxis indicates the necessity to create trimester-specific range for the thyroid hormone levels for the area concerned in women in reproductive age. The lack of such range requires an individual approach for diagnosis and treatment of the patient.

Aim: To define the lower and the upper trimester-specific TSH range in pregnant patients (first, second and third trimesters), who have successfully completed the pregnancy, without background therapy with Levothyroxin.

Materials and Methods: We have performed a single center, retrospective study using the electronic database of "Dr Shterev" Hospital. The analysis included data of 246 pregnant women with tested thyroid function, who have born in the hospital in 2017. In 130 of the women, thyroid function was investigated accidentally, they have no established thyroid pathology, there was no family history, they were anti-TPO negative, and did not have therapy. In 116, thyroid function testing was performed due to thyroid pathology data and a treatment with levothyroxine was prescribed and therefore they were excluded from the analysis.

The control group includes 200 non-pregnant women without thyroid pathology. The mean age of all patients included in the study was 33.8 years. TSH levels were determined by an immuno-chemiluminescent method (Cobos 6000), with the TSH benchmark for the non-pregnant population - 0.27-4.20 mUI / L. FT4 levels were determined by an immuno-chemiluminescent method (Cobos 6000), the reference interval for the FT4 laboratory for the non-pregnant population was 12-22 pmol / l.

To determine the boundaries of the TSH reference area, the percentile method was applied using bootstrapping according to the recommendations of the International Federation of Clinical Chemistry (IFCC). Data analysis was performed using the specialized software RefVal 4.11 (HE Solberg, Oslo, Norway).

Result: The determined trimester-specific TSH reference intervals, differ from the fixed ranges recommended by ATA. The use of this center-specific ranges, would significantly change the diagnosis and the necessity of therapy during pregnancy in a large proportion of pregnant patients.

ULTRA-STRUCTURAL SPECIFIC FEATURES OF PLACENTA DURING PREECLAMPSIA AND ECLAMPSIA

I. Sikharulidze , MD, PhD, M. Tsilosani MD, PhD, M. Kordzaia,PhD, A.Natishvili
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Background: According to the perinatal mortality risk the following groups of pregnant and parturient women are distinguished: 1. Pathology of circulation in the placenta of the pregnant woman, 3. Preeclampsia and eclampsia, 2. Acute and chronic diseases of the fetus, 4. Malposition of the fetus, 5. Disparity between the sizes of the fetus' head and the mother's pelvis.

We studied 50 changes in the placenta of not treated pregnant at the time of pre-eclampsia and eclampsia.

We studied 50 changes in the placenta of not treated pregnant at the time of pre-eclampsia and eclampsia

Methods: We have studied changes of the placenta during Preclamapse and Eclampsia in 50 pregnant women.

The samples were received from pathologic pregnancy department of K. Chachava Institute of Perinatalology and Obstetric-Gynecology. Small samples from the central and lateral parts of the placenta were placed in the Carnoy's solution. Further, they were stained with hematoxylin-eosin by Van-Gieson method. The study of the ultrastructure was studied by transmission electron microscope "Tesla BS. 500 ', image Magnification 5000-10000 x, acceleration voltage 60-70 kV.

Results: The following infracted areas were observed in the placenta, in case of the preeclampsia and eclampsia: The fibrinous degeneration, reduction of syncytial surface, bruises in inter- chorionic villi areas were observed in most chorionic villus. Thickening of the walls of large blood vessels led to the luminal narrowing and in some cases its complete obliteration. Because of multiple thrombosis, capillary network was significantly reduced.The electron microscopic study demonstrated the destruction of the plasmodiotrophoblasf in placenta. Namely, intercellular and intracellular swelling, destructive mitochondria, primary and secondary lysosomes, various sized vacuoles were vividly expressed. The granulating endoplasmic grid was actualy faded, which correlated to thelong-lasting dystrophic-degenerative changes. Increase the number of collagen fibers and reduction of fetal capillaries, upon the changes of the shape and size of endothelial nuclei, as well as chromatin content was observed.

Conclusion: There was revealed the range of destructive changes, which adversely affected the development of the fetus and viability.

Key words: *placenta, preeclampsia, eclampsia.*

STRUMA OVARII

Khatuna Khatchapuridze, MD, Ivane Javakhishvili Tbilisi State University (TSU), Georgia, Maia Mchedlishvili, MD, Ph.D, Alexandre Natishvili Institute of Morphology, TSU, Tbilisi, Georgia

Background. Struma ovarii is a variant of mature cystic teratoma, with predominant thyroid element. The diagnose is confirmed by histopathology. In some cases, it may mimic as ovarian malignancy. It may be associated with ascites in minority; there are cases, where even CA-125 has been found to be raised. As far as there are no specific clinical, radiological or serum markers for these rare tumors in the absence of abnormality in the thyroid, it is difficult to diagnose these cases preoperatively. Most cases are diagnosed on histopathology. Predominantl, in such cases, laparotomy is carried out for suspected ovarian malignancy. Prognosis is good for these tumors. Subtle radiological signs and a clinical suspicion can avoid surgical interventions in such patients.

Methods: Case presentation

Results: 50-year-old woman went to the hospital with the following complaints- pain in the hypogastrium region and slight increase in the size of the abdomen. The MRI imaging of the pelvic cavity revealed nonhomogenic mass with indistinct boundaries bilaterally in the area of the ovaries and on the right side the mass 8.5-8.0 cm sized. The fluidus-hemorrhagic and tissue density are differentiated in its structure. The 3.5 cm mass

with the similar density was revealed on the projection of the left ovary as well. There was small amount of fluid in the pelvic cavity. Other types of clinical laboratory and instrumental evaluation has not revealed pathologies. Ovarian cancer was suspected and the patient underwent total hysterectomy, omentectomy. Histomorphological and immunohistochemical study of preparation revealed Struma ovarii. Based on the diagnosis, the patient was referred to the appropriate specialist, and a total thyroidectomy was carried out. The histomorphologic study of the preparation diagnosed the multinodular goiter. As far as the patient had an ectopic tissue carcinoma of the thyroid gland, she underwent radioactive iodine therapy at a dose of100mCi, later changed to 10mCi. Currently, the patient is undergoing outpatient follow-up by endocrinologist.

Conclusion: The presented case supports to better understanding the essence of the struma ovarii and the peculiarities of its management.

HYDROSALPINX AND DISTRIBUTION OF PREGNANCIES AMONG LAPAROSCOPICALLY TREATED PATIENTS

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Introduction: Hydrosalpinx is common medical condition encountered among female population with infertility issues. One or both fallopian tubes can be filled with a substantial amount of fluid, making them dilated and dysfunctional, usually as a result of an injury or infection. Often the affected area can become substantially swollen and grow to even as big as few centimeters in diameter. Damages of different degrees can be seen on the mucosal lining, which compromise the processes of normal fertilization and zygote passage. The pathophysiology of this condition is unique, usually related to pelvic inflammatory disease or excessive tissue buildup due to endometriosis. Inflammation results in destruction of the mucosal lining and fimbria, fusing them together until complete distal obstruction of the tubes.

Material and methods: We retrospectively analyzed clinical records from a period of five years (2013-2017), selecting patients diagnosed as having unilateral or bilateral hydrosalpinx. Clinical files were divided by years and according to the treatment protocol used. Our scope of interest was focused on patients who were treated surgically, with different types of laparoscopic interventions. A total of 74 patients met our criteria for selection. Inclusion criteria that we used during records' assortment were complete data upon duration of infertility, microbiological analyzes and status, complete data upon diagnostic procedures, treatment protocol selection, surgical protocol and detailed information related to postoperative period.

Results: Two groups were related to conservative laparoscopic approaches and one to complete radical surgical treatment, unilateral or bilateral salpingectomy. Patients in the first group, 9 (16.36%), were treated with a laparoscopically guided creation of salpingostomy. Second group comprised of patients treated only with bilateral chromopertubation and consisted of 17 (30.91%) patients. Third, and the most numerous groups, comprised of 29 (52.7%) patients treated with salpingectomy. Bilateral salpoingectomy was performed in 9 (31.03%) and unilateral in 20 (68.97%) patients,

showing that majority of patients were treated with unilateral salpingectomy, after intraoperative evaluation of tubal patency of the contralateral uterine tube.

Data collected from the postoperative period, with a mean follow up of 15 months, provided us with information related to additional infertility treatment and conceptions achieved. A total number of 30 patients (54.5%) had successful pregnancies, which ended up with a desired outcome, healthy live birth. Procedures for artificial reproduction and successful pregnancies achieved with IVF were recorded in 11 (36.67%) patients and in the remaining 19 (63.33%) patients pregnancies were achieved via spontaneous conception.

Conclusion: Hydrosalpinx management is mainly influenced by the local tubal changes evaluated laparoscopically and can be surgically treated, either conservative or radical. Conservative approaches lead to fair chances of spontaneous conception and successful pregnancies. An integrated management of hydrosalpinx with bilateral salpingectomy and post-surgical usage of artificial reproduction techniques also leads to a substantial cumulative pregnancy rate.

SURGICAL TREATMENT OF CERVICAL CARCINOMA - FUTURE ASPECTS

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Cervical cancer, globally is both the fourth most common cause of cancer and the fourth most common cause of death from cancer in women. About 70% of cervical cancers occur in developing countries and 90% of deaths. Vaccination against human papillomavirus (primary prevention), has been shown to be over 90 percent effective in protecting against the lesions that lead to the majority of cervical cancer cases. Secondary prevention is accomplished with cervical screening followed by treatment of precancerous lesions. With newer testing modalities, including HPV testing, the diagnosis of precancerous cervical lesions becomes increasingly sensitive and with new methods of treatment – more effective. Studies have shown that in patients with untreated in situ cervical cancer, 30% to 70% will develop invasive carcinoma over a period of 10 to 12 years. However, in about 10% of patients, lesions can progress from in situ to invasive in a period of less than 1 year. The treatment of invasive cervical cancer depends on several factors, including the type and stage of cancer, possible side effects, and the woman’s preferences and overall health. There is a common myth among women that they must have a hysterectomy to treat cervical cancer. The truth is that while early invasive cervical cancer is typically treated with a hysterectomy – it’s not the only option. Radiation and chemotherapy are used to treat more advanced disease and may also be options for women with early stage disease who cannot or may not want to have surgery. Clark performed the first radical hysterectomy for cervical cancer at Johns Hopkins Hospital in 1895. In 1898, Wertheim, in Vienna, developed the radical total hysterectomy with removal of the pelvic lymph nodes and the parametrium. In 1901, Schauta described the radical vaginal hysterectomy and reported a lower operative mortality rate than the abdominal approach. In 1921, Okabayashi published his own technique, developed with his professor, Takayama, which had as particularity, the preservation of the nerve plexus . In 1944, Meigs improved Wertheim's technique and reported a survival rate of 75% for

the patients diagnosed with first stage cervical cancer and an intraoperative death rate of less than 1% (compared to 18% of the first Wertheims' report). In the 50's, Navratil and Mitra improved the vaginal hysterectomy method by adding the extraperitoneal lymphadenectomy. In 1974, Piver-Rutledge-Smith divided the radical hysterectomies into 5 classes, a classification used for a long time but over the time, this classification became outdated and obsolete. In 2008, Querleu and Morrow published another classification of the radical hysterectomies in Lancet Oncology magazine, and this one during the time is gaining more and more followers.

In the last decade the modern methods - laparoscopic radical hysterectomy and robotic radical hysterectomy as minimally invasive techniques are gaining more popularity in developed and highly specialized medical centers in the world. A randomized study by Ramirez et al. and one epidemiological study by Melamed et al. (2018), found that the minimal invasive surgery approach for radical hysterectomy for cervical cancer is associated with shorter disease-free and overall survival than open surgery. These findings were confirmed by a recent population-based survey in England (NCRAS cervical cancer radical hysterectomy analysis, May 2019). That led to a big debate and at last – change of approach in the recent guidelines from European and international organizations. For example, as of May 22, 2019 ESGO (European Society for Gynecological Oncology) changed their recommendation regarding the approach for radical surgery for cervical cancer - « minimal invasive approach is favored », which is no longer valid and should be removed and replaced by « open approach is the gold standard ».

New ways to prevent and treat cancer of the cervix are being researched, and some of the promising new developments include the following: immunotherapy, sentinel lymph node biopsy, vaccine against the E7 protein, hyperthermia and targeted therapy.

ORTHOPAEDICS

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TRAUMATOLOGY.

CALAMITY MEDICINE

IMPACT OF PHYSICAL AND REHABILITATION MEDICINE IN THE CLINICAL MANAGEMENT OF NEUROLOGICAL, NEUROSURGICAL, RHEUMATOLOGICAL AND TRAUMATOLOGICAL PATIENTS

Prof. Ivet B. Koleva, MD, PhD, DScM, Medical University of Sofia, Faculty of Public Health, Bulgaria

The *World Report on Disability* of the World Health Organization and World Bank defines the *goals of rehabilitation*: prevention and slowing the rate of loss of function; improvement, restoration or compensation of lost function; maintanance of current function. Modern rehabilitation has an *integrative and holistic approach to the patient***,** based on the *International Classification, disability and Health (ICF)* and on clinical principles.

In the clinical management of neurological, neurosurgical, rheumatological and traumatological patients the role of medical doctors is central. According the *European Definition of the Medical Act* (2005): "The medical act encompasses all the professional actions, e.g. scientific, teaching, training and educational, organizational, clinical and medico-technical steps, performed to promote health and functioning, prevent diseases, provide diagnostic or therapeutic and rehabilitative care to patients, individuals groups or communities in the framework of the respect of ethical and deontological values. It is the responsibility of, and must always be performed by a registered medical doctor / physician or under his or her direct supervision and / or prescription."

The number of chronic patients with diseases and conditions of the nervous and the motor systems increases and they need complex rehabilitation programs, oriented to functional recovery and amelioration of their quality of life. In this process, the impact of physical and rehabilitation medicine (PRM) is central. According the *definition of the European Union of Medical Specialists – PRM Section*: PRM is an „independent medical specialty, oriented to the promotion of physical and cognitive functioning, activities (including environment), participation (including quality of life) and changes in personal factors and environment". The specialty PRM is responsible for the management of the prevention, diagnostics, treatment and rehabilitation of patients with health-related disability and co-morbidity of all ages.

We present *rehabilitation algorithms (programes of care*) in some socially important diseases of the nervous and the motor systems. Algorithms start with a detailed functional assessment, including ICF-evaluation. Capacities of different traditional and modern natural and pre-formed physical modalities are underlined. Author emphasizes on effectiveness of contemporaneous methods like: transcutaneous electroneurostimulation (TENS), functional electrostimulations, lasertherapy and laserpuncture, Deep Oscillation; proprioceptive neuro-muscular facilitation, analytic exercises, post-isometric relaxation, stretch techniques; ergo (occupational) therapy methods.

Presentation is illustrated by our own 30-years clinical experience (including personal observations and investigations) in PRM Clinics of different university hospitals and in Specialized Rehabilitation structures. Our results proved the efficacy of rehabilitation on pain, oedema, muscle force, motor weakness, range of motion of joints, autonomy in activities of daily living, quality of life of patients.

In the complex rehabilitation algorithms, many *health specialists* are included: nurses; professional bachelors in Rehabilitation, bachelors and masters in Medical Rehabilitation and Ergotherapy, in Kinesiotherapy and in Ergotherapy; masters in Medical Rehabilitation and Balneology. Author underlines the necessity of regulation of the roles of every member of the rehabilitation team. We suggest a clear definition of the fields of competence and the responsibility of the team members.

Key words: *physical and rehabilitation medicine, rehabilitation team, quality of life, professional competences*

Bulgarian Red Cross' capacities for response to crisis situations at national and international level

Prof. Dr. Krasimir Gigov, MD, Lubomir Karakanovski, Bulgarian Red Cros, Sofia, Bulgaria

The BRC is an autonomous organization with a 141-year history that assists the State in the humanitarian field, in preparing for action in martial law, military conflicts and disasters.

The BRC is an autonomous organization with a 141-year history, an organization, which assists the state in the humanitarian field, in preparing for action in wartime, during military conflicts and disasters. It is the only national largest public organization, which operates on the territory of the Republic of Bulgaria. Together with the governmental, municipal and non-governmental organizations, it carries out activities for disaster preparedness and response, assisting the population in times of disaster. It supports vulnerable people in disaster and crisis situations through its powerful network of volunteers. The BRC was founded in 1878 and complies with the national legislation related to disasters.

The BRC is part of the International Red Cross Red Crescent Movement and is guided by its Fundamental Principles: humanity, impartiality, neutrality, independence, voluntary service, unity and universality

The BRC assists the State when emergency situations occur; it is included in the National Program for Disaster Protection and in the annual plans for the protection of population in the event of disasters, which are part of the National Program. It carries out its tasks in close collaboration and coordination with IFRC and other partners. The BRC is also one of the main components of the Unified Rescue System of the country.

At *national level*, the BRC has a National Disaster Response Team, a National Flood Response Team, and at the *regional level*, it operates 28 Volunteer Disaster Response Teams – having a total of over 500 volunteers, as well as 21 Youth Emergency Teams with 375 volunteers. The BRC emergency response units include rescue teams of the Mountain Rescue Service with 16 rescue dogs, for search and rescue operations in debris and using alpine rescue methods, 100 volunteer psychologists providing PFA and PSS. The BRC has specialized structures, which provide assistance to people in accidents: Mountain Rescue Service and Water Lifesaving Service. BRCs has a central warehouse in Lozen and interregional warehouses in Ruse, Burgas and Dobrich and maintains a reserve of emergency items for covering the needs of affected people in disasters, as stipulated in the National Plan for Disaster Protection – for more than 12 000 persons in

need. The BRC operates its own HF and VHF radio communication system. The BRC has a significant role in First Aid education and in the programs for basic training in psychological first aid and in psychosocial support to the affected population.

Activities performed by the BRC with partners: It opens posts for provision of: *First Aid;* Psychological First Aid and Psychosocial Support*;* Water, snacks and drinks; Emergency relief items to affected people; Assisting the EMS; Delivers priority aid to the vulnerable groups in the society; Participates in needs assessment; Participates in restoring family links activities; Participates in various activities upon request from partners; Organizes the collection and distribution of necessary aid; Organizes and participates in national charity fundraising campaigns to to assist victims; Through the National Council of the BRC, it proposes to request international assistance (international appeal) from the IFRC, including financial assistance; It organizes activities with spontaneous volunteers;

National campaigns organized by the BRC to assist the affected people: National campaign of the BRC to assist the population affected by floods in the region of Pernik – in 2012 – raised 2 337 978 BGN; National campaign of the BRC to assist the population affected by the earthquake in the region of Pernik – in 2012 – raised 1 084 695 BGN; National campaign of the BRC to assist the population affected by the floods in North-eastern Bulgaria in 2014 - raised 2 236 021 BGN; National Charity Campaign to assist the affected in the village of Hitrino in 2016 – raised 2 076 951 BGN; National campaign of the BRC to assist the population affected by floods in Burgas region in 2017- raised 327 576 BGN.

The BRC has a significant role in several EU funded projects, such as *Aware & Resilient project*, aiming at improving the communities' disaster preparedness, including through community based exercises; *PrepAge project,* aiming at improving the disaster preparedness of older people and enhancing the interaction between social and rescue services; *PrepCap project* for building disaster response capacity of the Red Cross societies in Belarus and Ukraine; *Recheck project* aiming at strengthening disaster preparedness among families living in urban areas and assessment of their disaster resilience through electronic instruments; *MERCI project* aiming at building capacity of voluntary civil protection organizations to respond in series of incidents with multiple risks in multiple locations, incl. CBRN; *ProVoice project* building capacity in volunteer management (including spontaneous volunteers) and disaster preparedness of the population in Belarus, Moldova and Ukraine.

PHARMACOTHERAPY

GOOD PHARMACEUTICAL PRACTICE – A FUNDAMENTAL FOR A TEAM-BASED PATIENT CARE

Master Pharmacist Stefan Balkanski, - Bulgarian Pharmaceutical Union, Sofia, Bulgaria

Good Pharmaceutical Practice (GPP) is the practice of pharmacy that responds to the needs of the people who use the pharmacists' services to provide optimal, evidence-based care. According to the amendments to the Law of the Professional Organization of Master of Pharmacists, GPP consist of a system of guidelines and principles that describe the professional values, knowledge, skills and behaviour that pharmacists can apply in accordance with their experience and professional judgment.

As health-care professionals, pharmacists play an important role in improving access to health care and in closing the gap between the potential benefit of medicines and the actual value realized and should be part of any comprehensive health system.

Pharmacists are specifically educated and trained health professionals who are charged with the management of the distribution of medicines to consumers and engaged in appropriate efforts to assure their safe and efficacious use. The new Good Pharmaceutical Practice rules of the Bulgarian Pharmaceutical Union can be considered an a fundamental for a team-based (physician-pharmacist) patient care.

Key words: *Good Pharmaceutical Practice, Pharmacists, Team-based patient care*

INNOVATIONS IN BULGARIAN PHARMACIES - PERSPECTIVES AND CHALLENGES

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Objectives: Innovations in pharmacies are usually associated with innovations generated in the pharmaceutical industry. These innovations often lead to innovation activity in all subsequent segments in the value-added chain of medicines and create the need for pharmacists to acquire new knowledge and skills. There are other types of innovation activity in pharmacies, as well.

Methods: Literature review of 45 publications in the PubMed, Google Scholar and World Wide Web. Search was conducted on the following keywords: innovation, pharmaceutical innovation, pharmacy and cover the period 2015-2019. Semi-structured interviews among 16 pharmacists and pharmacy managers. Survey was conducted in period March – July 2019.

Results: The innovative activity is shifting from new active substances to new pharmaceutical forms. Innovation activities in pharmacies are not limited to this process. Bulgarian pharmacies are in line with global trends.

Conclusions: Bulgarian pharmacies are mainly focused on administrative innovations in the last years. These trends may cause delay of other useful innovations for the healthcare system and society

D-PENICILLAMINE IN THE TREATMENT OF WILSON DISEASE

Estela Ivanova Kalinina; Medical student, Medical University, Sofia, Bulgaria

Background: Wilson disease is an inherited autosomal recessive disorder that leads to copper accumulation in the liver, brain, cornea, and other organs. Wilson disease is a very treatable condition. With proper therapy, disease progress can be halted and oftentimes symptoms can be improved. Treatment is aimed at removing excess accumulated copper and preventing its reaccumulation. This is accomplished with two main groups of drugs: chelating agents, including d-penicillamine and trientine, that promote urinary excretion of copper; and zinc salts, including zinc sulphate, that interfere with intestinal uptake of copper. Treatment for Wilson disease is a lifelong process.

Methods: I performed a literature search using medical publications, textbooks and articles related to Wilson disease and its treatment with D-penicillamine. I reviewed the materials to summarize information about the role of D-penicillamine in the treatment of Wilson disease. I surveyed penicillamine's development, indication for use, dosing, efficacy, and adverse effects, and generalized the available information.

Results: D-penicillamine is an oral chelator. Its major effect is to stimulate and extend the urinary excretion of copper. Penicillamine is recommended for use in symptomatic patients during the initial intensive phase of treatment and later as maintenance therapy. It is also recommended in presymptomatic patients. The therapeutic response is best seen clinically. D-penicillamine is associated with numerous side effects, some of which requiring the drug to be discontinued.

Conclusions: Although there is no cure for Wilson disease, therapies exist that aim to reduce or control the amount of copper that accumulates in the body. D-penicillamine remains a popular chelating agent for treating Wilson disease despite its adverse effects.

ROUND TABLE

CHALLENGES BEFORE THE PUBLIC HEALTH IN THE 21ST CENTURY: VALUES AND PRINCIPLES

Prof. Tihomira Zlatanova, MD, PhD, Prof. Tzekomir Vodenicharov, MD, DSci, Assos. prof. Andrey Kehayov, MD, PhD, Faculty of Public Health, Medical University-Sofia, Bulgaria

Health is a value, but also a precondition for economic prosperity. Human health has an impact on economic performance in terms of productivity, labor supply, human capital and public expenditure. The development of the healthcare sector is strongly influenced by innovation and has a significant economic role: it represents 10% of EU GDP. It also has a strong workforce concentration and is one of the largest sectors in the EU.

The purpose of this article is to present the health challenges of the 21st century on the basis of an analysis of the basic principles and values of healthcare systems. European healthcare systems face the following common challenges: an aging population of Europe with several chronic diseases leading to a greater demand for health care; the continually rising costs of innovative technologies and medicines that are becoming a burden on public finances; unequal distribution of medical specialists, and in some specialties a lack of them; unequal access to health, leading to situations of inequality in health across society. Ways to tackle the challenges by improving efficiency, increasing access to health care and sustainability factors are proposed.

Key words: *values and principles, public health, quality, safety*

GLOBAL MEDICAL PROGRESS AND DEVELOPMENT OVER THE NEXT THIRTY YEARS FROM PERSPECTIVE OF CLIMATE CHANGE, GLOBAL POLLUTION, DEMOGRAPHIC CHANGE, ANTIMICROBIAL RESISTANCE AND TECHNOLOGICAL DEVELOPMENT

Peteris Apinis, Dr.med.H.c., Editor–in Chief of World Medical Journal

Describing future medicine (selecting a view in the 30-year future – 2049), the key words are:
(i) biochemistry and biology;
(ii) business;
(iii) chemistry;
(iv) mathematics and computer science;
(v) engineering and nanotechnology;
(vi) genomics.

In 2049, medicine will be personalised, predictable, preventive, co-sustainable, with high technology, high data processing, informatics and artificial intelligence involvement. The three major discoveries that will rapidly advance medical development over the next 30 years will include:
(i) artificial lungs (or rather artificial gills): very close supersensitive membranes, blood flowing between them and oxygen-rich air or liquid on the other side;

(ii) artificial blood, a fluid that will be able to flow through the blood vessels, and to attract and return oxygen to tissues;
(iii) stem cell studies, gene engineering and 3D printing, or *in vivo* breeding capabilities in another organism, will certainly allow the development of such important structures as the kidneys, liver, and I think, even the lungs.

Certainly in 2049 you won't be able to print ore grow new brains.

It is essential that, among basic medical employments– diagnostics, treatment, rehabilitation, prevention, the emphasis in the future will shift to rehabilitation (currently the emphasis is placed on diagnosis, often paying more attention to diagnosis than treatment's or rehabilitation's facilities).

I've chosen 10 essential factors that will determine medicine and the health of the population over the next 30 years, and sorted it out by personal sense:

(i) climate change. It is climate change, that will identify a very significant humanitarian crisis in Subsahar, North Africa and possibly South Asia over the next 15-20 years. This humanitarian crisis will target migration of more than 200 million people, with very high pressure on health systems in countries where migration will take place;

(ii) planet pollution. Municipal chemistry as poison, excessive armament and military actions as a degrading factor for the planet. Endocrine disruptors will be a birth limited factor, as well will further affect the loss of flora and fauna diversity on the globe. Excessive use of chemical substances will also result in an increase in hereditary pathologies and inherited defects;

(iii) overuse of pesticides, fungicides, herbicides, as well as antimicrobial therapies used in medicine and veterinary medicine will affect the characteristics and resistance of bacteria. Pathogenic bacteria resistant to all antibiotics will develop.

Antimicrobial resistance will lead to very serious morbidity and mortality. The control of infections will be based on vaccination against antibiotic-resistant micro-organisms. Over the next 30 years, one or more global epidemics caused by viruses will move around the world. Humanity will start to avoid hospitalizations by multiplying from contagion

(iv) The overpopulation of the planet and demographic changes, a significant increase in life expectancy (in both rich and poor countries). This will lead to a number of consistencys:

• medical treatment, provided it has sufficient resources, will be able to extend the lives of each individual very significantly;

• each individual will claim a very large amount of total money to extend his individual life, and regardless of the country's economic wealth, medicine will start to run out of money in a catastrophic way;

• any resource (medical knowledge, intuition, experience, working time, premises, hardware, medicines, money) that will be invested in health care, specific prevention, diagnosis, medicine and rehabilitation, will extend the duration of human life and improve the quality of life;

• the fundamental paradox of medicine will come true: the more money will be invested in health care, the more people will live longer, the more resources will be needed for health care. Consequently, there will be public discontent in all countries with the health system and the financing of healthcare;

(v) an even greater social determinance between the rich and the poor, educated and uneducated – the predictable length of human life will be determined by the ZIP code as

a genetic code (in any country in the world, a wealthy and educated person lives on average for a significantly longer life than poor and uneducated);

(vi) the ageing of the population – patients and doctors. Chronic diseases epidemics, multimorbiditie (many diseases per patient) and polypragmasia (a patient with many different drugs at the same time);

(vii) lack of doctors and medical professionals;

(viii) digital technologies, particularly in diagnostics, artificial intelligence as a leading element of diagnostic and screening;

(ix) rehabilitation as a leading medical sector;

(x) healthcare, medicine and pharmaceutical market (together) as the main economic sector of any country with a share of at least 25% of gross national product.

UNRESOLVED STRATEGIC DILEMMAS IN HEALTHCARE AND THEIR EFFECT ON THE HEALTHCARE POLICY

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Dilemmas precede every human decision. Taking a decision means the dilemma is gone.

Healthcare is an area of society with a record amount of unresolved dilemmas, and of questions without clear answers. The seeming simplicity of possible solutions is counteracted by reality and its multidirectionality, multidimensionality and variability.

The unresolved strategic dilemmas in healthcare are conceptual by nature: a higher involvement of the government or a freer market in the healthcare sector; an unregulated or a regulated market; an autonomous health policy or a social health policy; profit-centered healthcare or ethics-centered healthcare, etc.

Healthcare politicians and experts are unanimous that the main differences and discussions stem from the question of whether public (governmental) or market mechanisms should drive the managing of the healthcare system. While there are many extreme visions of the set-up of the healthcare system, there are also softer approaches such as the social-liberal healthcare model. This two-way process – market driven healthcare and health driven market – establishes the vision that the market has to serve the goals of the healthcare.

The amount of funds spent on healthcare in Bulgaria is constantly growing, but the effectiveness of this spending is low. The expectations of the population for a higher quality medical services are growing. This naturally generates new ideas, new interests and inevitable contradictions. A new healthcare insurance model is proposed with the goal of demonopolizing and decentralizing the health insurance system by involving more entities which pay for healthcare services.

The authors of this publication comment on some healthcare dilemmas and the newly proposed healthcare insurance model - the pros and the cons, and give their expert opinions on how to better address the strategic dilemmas in the health sector.

Key words: *dilemmas, health policy, effectiveness, healthcare insurance model*

THE STRATEGIC STYLE OF MANAGEMENT THOUGHT - AN UNCONDITIONAL ATTRIBUTE TO EFFECTIVE HEALTH REFORM

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Summary: Modern health management is not just the ability to handle everyday tasks and documentation. Of course, these are necessary things, but they are elements of operational management. Managerial practice has shown that all efforts for effective operational (day-to-day) management remain fruitless if there is no competent strategic management. The health reform in Bulgaria, launched in 2000, is a typical example of the lack of sufficiently clear and long-term strategic visions and priorities as early as in its design and then its implementation. It should be noted that we have not yet had a formal and competent, critical and accountable strategic assessment of the outcome of this change in healthcare for the past 19 years since the change in our healthcare started.

The need for strategic thinking and re-assessment of health reform is more than obvious. The deficit of strategic health management has proved to be the main obstacle to a successful health reform that is acceptable and effective in three aspects - the medical, social and economic aspect of their unity. Analyzes show that our current health managers are captives of the survival strategy and the compulsion to solve the problems fragmented, "in a piece". And that's exactly what blocks the style of effective strategic management. It is becoming increasingly clear to the experts that the most severe deficit of our health reform since its inception to date is the strategic thinking and management style, the lack of clear visions, priorities and forecasts for long-term goals, the balance of chances and risks, and for the medical-social effect.

Strategic health management as an element of management culture is not a simple technology or a set of ready-made models, but above all, a large-scale style of thinking. This style of thinking has its clear specificity and three basic principles (Triad „The three P"): **Priority, Prognosis and Pluralism.** The presence or absence of this strategic triad in the healthcare reform process is a crucial indicator, criterion and guarantor of its success.

Keywords: *priority, strategic health management, healthcare reform process, strategic thinking style*

HEALTHCARE CAPACITIES IN 21 CENTURY

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The World Health Organization named 2020 "Year of the nurse and midwife". This act demonstrates the serious concern of the world institutions on nursing and midwifery and worns societies on the necessity of respect and recognition to the health care professionals, to endorse scientific forecasting and retention strategies in concern of their professional satisfaction and important mission accomplishment – equal access to skilled care and delivering professional Health care to All in response to the aims of 2020 Health care.

I would like to draw your attention to an extremely important problem not only for Bulgaria, but also for the whole world - shortage of nurses and midwives. Medicine is a team activity and research has proven that "Investing in healthcare saves lives", yet the shortage of medical professionals is pervasive. More than 10 years of reforms in the Bulgarian health care system have led to job insecurity, humiliating low salaries and expressed dissatisfaction both on the part of patients and staff. Various attempts have been made to address the serious problems, but without much effect, especially in the field of healthcare. It is encouraging that the Congress is attended by professionals with different ranks, with real involvement in healthcare decision-making. We are expecting they to raise the visibility of the nursing profession in policy dialogue, to discuss the issues and to plan actions on the main problems with the aim to overcome the shortage of staff and to address health priorities and professional motivation , to suggest controversies for real control and compliance with medical standards.

"Only through proper investment in medical education will Europe and the individual nations achieve better patient outcomes, greater worker satisfaction, efficient integrated care, and all this depends on the qualifications of nurses, the largest healthcare professional group" (Linda Aiken)

The importance of a sufficient number of nurses in patient safety is proved by numerous international studies. The staff shortage compromises the quality of care, low clinical outcomes and increased mortality in hospitals. ICN Study proves that the increase of the nurses with 1 to each 10 hospital beds reduces mortality as a result of stroke and cardiovascular accidents in the first 30 days with 11-28% and 8-12% one year after the incident . At the same time, the WHO warns that a shortfall of 9 million nurses is expected in the next 10 years globally. Research has shown that "investments in health care are making a return, as the availability of sufficiently motivated and well-trained staff reduces mortality and increases the quality of care" (Linda Aiken, 2012).

What about the situation in Bulgaria? The analysis of the data made by the Bulgarian Association of Health Professionals in Nursing proves that the number of nurses is constantly decreasing. The functioning of the health care system will be at serious risk if the specialists in retirement age and those who are about to retire in the next 5 years leave. The average nurses' age in Bulgaria is 54 years and is 9 years higher than the age of the nurses in EU. Per 100 000 people the number of the nurses in Bulgaria is 2.5 times lower than the average in Europe. In Bulgaria we have shortage of 30,000 healthcare professionals. This situation inflicts urgent political and management decisions.

CHALLENGES FOR THE PROVISION OF MEDICAL PRACTITIONERS - CONSEQUENCES FOR THE HEALTHCARE SYSTEM IN BULGARIA

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Introduction: Human resources occupy a central place in every healthcare system. The demographic and migration processes influence the structure of the medical staff, which is a challenge related to their management. **THE AIM** of the publication is to examine the negative impact which the shortage of doctors in smaller towns has on the healthcare. Documentary and sociological **methods** have been used for the study. Information presented by the Union of Bulgarian Physicians has been analyzed for the

age structure of the Union by specialties and by Regional Physicians' Committee, and the migration processes. Two anonymous studies have been conducted among doctors who have received a UBP certificate for good medical practice in the period 2016 - 23.08.2018 and working abroad.

Results: According to UBP, the mean age of doctors for the country is 52.64 years. 62% are over 51 years old, and about a quarter are between 61 and 70 years of age. In some regions there is a combination of high percentage of elderly working doctors and a small number of young professionals. According to estimates of the National Association of General Practitioners in Bulgaria, 98% of the GPs will be over 50 years old in 2025. When examining the age structure by specialties we observe such in which doctors over 61 are more than one third. According to UBP data about 350 Bulgarian doctors emigrate annually, which is why there is a serious deficit in some specialties. According to the accepted health card, there is a lack of about 405 pediatricians and 450 GPs. According to data from the National Statistical Institute from 2016, the provision of doctors for the whole country is above the average for the EU countries, but there are marked interregional disproportions. 28% of doctors work in Sofia, whereas in Smolyan, Targovishte and other small towns - only 1%. The lowest indicator of provision is observed in the districts of Razgrad, Dobrich and Pernik. The deficit of GPs in the districts Razgrad, Kardzhali and Targovishte is disturbing.

The review of the information clearly outlines trends related to the aging of physicians, the presence of disappearing undesirable specialties and disproportions by regions, specialties and medical institutions. These challenges in providing sufficient staff in remote towns lead to difficulties in organizing the work process; impaired functionality and balance of the pyramid-like structure of the system; concentration of the medical care in large cities and especially in hospitals, leading to increased healthcare costs. The shortage of specialists influences the efficiency and effectiveness of medical work; it is a prerequisite for higher workload for certain physicians and the occurrence of Burnout syndrome, which affects the quality of the medical activity. The negative consequences for the healthcare system are related to difficult access to healthcare, lack of timeliness in medical care and depletion of trust in the health insurance model.

Conclusions: In-depth analysis, assessment and prediction of the needs, as well as the implementation of measures for the prevention of shortage of healthcare professionals on national and regional level are necessary. It is all the more urgent to adopt a National Strategy for Human Resource Management. The legal changes should ensure system security, predictability, personal perspective and decent pay for the healthcare workers. In order to achieve a positive change in the attitudes of society and to form respect for the medical profession, it is necessary to objectively reflect the nature and importance of the work of the medical specialists.

QUALITY INDICES IN COMMUNITY CARE – EXPECTATIONS VS REALITY

Dr. Alexander Levin, MD, MHA, Israeli Medical Association

Quality Indicators have been defined in several different ways (Jan Mainz, 2003). As measures that asses a particular health care process or outcome; as quantitative measures that can be used to monitor and evaluate the quality of important governance,

management, clinical and support functions that affect patient outcomes; and as measurement tools, screens, or flags that are used as guides to monitor, evaluate, and improve the quality of patients care, clinical support services and organizational function that affect patients outcomes. It is important to note that indicators are not a direct measure of quality. Quality is multidimensional.

Indicators are based on standards of care. These can be evidence –based and derived from the academic literature. If scientific evidence is lacking, they can be determined by an expert panel of health professionals in a consensus process based on their experience.

The presentation will explore different methods for quality measurement in countries throughout the world: United States of America, United Kingdom, Canada and Australia. It will then compare these different programmes with the National Program for Quality Measures for Community Medicine in Israel and the Clalit Health Fund Quality Index Program.

Quality indices are an important tool for improving quality in community medicine and can also be used for quality assessment. The quality indices that exist in both the Israeli national program and "Clalit" in large part do not meet accepted criteria for determining medical quality indices in the community in developed countries.

HUMAN CAPITAL IN MUNICIPAL (COMMUNITY) HEALTHCARE: PROFESSIONAL DEVELOPMENT,TRAINING AND DEMOGRAPHIC INFLUENCE

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Summary: People are the key resource to any organisation. They represent the intellectual and social capital, nonmaterial resource, that generates value, delivers results and achieves goals. Human resources are the most precious capital and its skilful management is one of the major challenges of present day management.

Aim: to study the essence and characteristics of human resource management in municipal hospital establishments by empirically exploring motivation of medical teams and their assessment of hospital management.

Material and methods: Empirical study of medical teams' motivation in municipal hospitals and their assessment of hospital management as well as survey of patients' opinion on quality of medical care. Questionnaires are two types: for hospital management and medical teams. Concrete tasks are grouped as follows: motivation of hospital personnel, attitudes towards hospital management; work conditions and staff satisfaction. Logical units of study are physicians and health professionals, hospital management- line management, heads of wards, head and chief nurses in ten municipal hospitals. Survey was undertaken between February and May 2018. When selecting municipal hospitals, the principle of regional representation and municipality size (large, medium and small) was respected. Valid questionnaires: Management- 112 and Physicians and Health Professionals- 183.

Results and conclusions: The study and results of management's, physicians' and health professionals' opinion of hospital management and human resources management in particular in ten municipal hospitals indicate that new approach to health management is needed which could concentrate both on medical professionals' and societal needs. This approach should provide that major decisions in healthcare are taken on the basis of health providers' and customers' expectations and requirements. Moreover, human resources in health are directly correlated to health outcomes and results of medical establishments, that is high quality and accessible medical service to the population.

HUMANISM AND MEDICINE
DOCTORS IN ART - EMANATION OF PROFESSIONAL HUMANISM (WHY THERE ARE BULGARIAN DOCTORS-WRITERS)

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Summary. Medicine is the most versatile field of knowledge and professional practice. This is a great challenge for people who have dedicated their careers and life mission to medicine. The need for a broad cultural outlook for health care providers is a serious challenge that has long been the subject of discussion and analysis. In this context of particular interest is the phenomenon of "medics in art".

It is an indisputable fact that a large number of doctors have remarkable manifestations in the arts. The world-famous names of doctors-writers are Anton Chekhov, Archibald Cronin, Somerset Maugham, Mikhail Bulgakov, as well as Bulgarian medical writers: Valery Petrov, Bancho Banov, Miladin Apostolov, Zlatimir Kolarov and others.

The question of why many doctors write poetry is as interesting as it is difficult to explain. A classic explanation is given by Dr. Antov Chekhov: "To me medicine and writing are one and the same - they are human professions." True vocational doctors, humanist doctors carry a poetic spark in their heart that ignites and strengthens their humanity and dedication to suffering people.

Key words: *professional mission, writing doctors, humanism, poetic spark,*

CHALLENGES IN THE HEALTHCARE SYSTEM IN THE 21ST CENTURY

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Introduction: Healthcare is complicated system which consists of activities for management, financing and distribution of health services. Its main aim is to improve the health status of the population and to support the people's rights connected to the solidarity and the right to choose. The efficacy healthcare is trying to achieve is connected with the consumption of system resources. This is a challenge which has both social and economic characteristics. Also, a lot of structural problems exist in healthcare, such as: funding and organization of the system, technological and personnel security, issues with the effectiveness of the health system etc. The missing link between the real value and

the cost of the health service and the inability of the state to exercise universal control over the system provide a chance for the private health insurance funds to have little incentive and opportunity to control healthcare costs as well.

Methods: The Methodology for Health Policy Development and the methods appropriate to Public Health practice is the frame work on which decisions for improvement of health status of people are made. This paper details the importance and issues regarding health policy development and discusses the methodological issues regarding health policy development.

Results: The expected results from the implementation of health measures, actions and programs include positive changes in the health, safety and well-being of the population by ensuring affordable and quality healthcare, human resource development, knowledge and innovation within the overall transformation and e-health of Healthcare will greatly help to make the indicators of the nation's health conditional, and bring them closer to the average levels of the European Union.

CONCEPTUAL MODEL FOR THE PREVENTION OF RISK OF CHRONIC NON-COMMUNICABLE DISEASES (HND)

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Chronic non-communicable diseases have reached epidemic dimensions globally. At the moment in Bulgaria, relatively few funds are allocated for their prevention.

The purpose of this study is to formulate a more effective HND prevention model that offers an alternative approach in health management based on modern information and communication technologies in the field of data analysis.

Materials and methods: The study is based on the principles of the WHO CINDI programe. The subject of the study are the risk factors for HND based on studies of 291O persons in the period 2010- 2017, men and women in the age group 25-64. Qualitative analysis, conceptual, documentary, survey and statistical methods are used (specialized statistical software packages and applications Exel, R, SPSS/PSPP andEviews/Gretl).

Results and discussion: The produced probability model outlines two criteria by which the surveyed persons can be grouped; 1.Presence of HND and 2. Self-assessment of the health status.

The focus in the first component of the model is on the spread of HND. The second component traces the behavioral specifics that determine the self-assessment of the individuals in terms of their health status. The third component explains the processes related to hospitalization and the use of sick leave at a macro level.

Conclusion: Effective prevention in relation to the processes related to hospitalization and the use of sick leave is a key factor for health management. Therefore, the analysis of the processes leading to the spreading of HND and the possibilities for prevention of both the spreading and consequent deterioration of the health status of the population should be the basis of the specification of an alternative prevention model.

Keywords: *Chronic Non-communicable diseases (HND), prevention, conceptual model, health management.*

WILL THE SHORTAGE OF GPS EVER END, OR ARE WE IN FOR A PERMANENT CRISIS IN PRIMARY HEALTHCARE?

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All across Europe general practitioners, family medicine specialists, provide primary health care to their patients. Even though often not acknowledged by governments, insurers, and even colleagues working at secondary and tertiary levels, medical science considers primary care to be the cornerstone of modern healthcare. Continuity of care, which implies that individuals use their primary source of care over time for most of their health care needs, is associated with greater satisfaction, better compliance, and lower hospitalization and emergency room use. Family medicine at the primary level provides for reduced mortality, morbidity, and health care expenses and may thus provide added value in the management of chronic conditions (Freeman and Hjortdahl 1997; Mainous and Gill 1998; Rosenblatt et al. 2000; Weiss and Blustein 1996).

At least two years of a relationship (and as many as five) are generally required for patients and practitioners to get to know each other well enough to provide optimal person-focused care (Starfield 1998). Health care systems should be designed to support long-term trusting relationships between patients and physicians, and health policies should encourage patients to concentrate their care with one physician (Shin et al. 2014).

Same conclusions can be drawn from the legal viewpoint. Constitutionally determined fundamental human rights and large volumes of healthcare and patient rights legislation guarantee that everyone has access to safe, quality, accessible health services and most often than not the primary gatekeeper and coordinator of all this care is our overworked GP.

Here European medicine faces its crucial 21st-century challenge. For too long primary care has been overlooked and GPs, their expertise and work unacknowledged, intentionally or not. At the time when role and importance of primary medicine should be increasing, we are seeing young doctors shunning family medicine resulting in dwindling numbers of GPs or, as is the case in the UK, Slovenia, and many other countries, even real shortages. However, every increasing flow of patients, working hours and multiple responsibilities all at once is not just a question of labor relations, but also, or even most importantly, the issue of access to quality and safe healthcare. Indeed, a family physician who cares for too many patients in reality does not provide care at expected professional and legal standards to any of his patients. At the same time, GPs in such a system face increased professional or even criminal liability (Perenic, 2018).

All these facts are scientifically proven, known to all of us and, unfortunately, not at all surprising. However, all across Europe, decision-makers fail to act. It takes at least ten years to train a family doctor from entering medical school, and we need more GPs now. If more GPs are leaving the profession than entering it, we are fighting a losing battle.

We should encourage decision-makers at all levels of government and the medical profession to actively acknowledge the role of primary family medicine. Insurers should,

as a matter of urgency, provide increased funding. The answer is not just increasing the number of GPs that in most cases is an unattainable goal short term of. We should also be thinking of expanding and empowering other medical staff as well as non-clinical and support staff. We need comprehensive educational programs and awareness campaigns aimed at the public and, let's be honest, also for other healthcare professionals, to understand and acknowledge the crucially important role of primary family medicine care.

We should all act now or through ever-increasing workloads and further lowering of morale risk losing this battle for the decades to come. As a famous president once said, we chose to act do these things, not because they are easy, but because they are hard; because this goal will serve to organize and measure the best of our energies and skills, because this challenge is one that we as a medical profession and Europeans are willing to accept, one we are unwilling to postpone, and one we intend to win.

BRAIN DRAIN: AN EXISTING, DISASTROUS PHENOMENON

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Background: The term 'brain drain' refers to a great 'leakage' of highly educated and specialized people to more developed countries, seeking for better social, economic and working conditions. Although, primarily, the phenomenon concerned population from developing to developed countries, nowadays, and especially in the case of Hellas, brain drain is all-pervasive. The financial crisis of 2009 which led to strict austerity measures, led about 35000 Hellenes, including many doctors, to search for work abroad.

Methods: Unfortunately, there aren't any official data to announce the dimensions of the phenomenon. According to the number of licenses issued for work abroad, the Athens Medical Association states that almost 7500 doctors have left the country since 2009. This group, sadly, consists of young, ambitious, talented physicians who under different conditions would be eager to support the National Health System and self-evolve. A study's result indicates as well, that almost 90% of medical students considers immigration as a promising, if not the only alternative, regarding the country's financial condition.

Results: Brain drain of doctors has disastrous effects on the country. The lack of young, promising physicians deprives Hellas and the society in general of a dynamic human capital which could help the country's progress. Hellas has invested in this part of the population, spending many resources, without eventually benefiting from that. The NHS, thus, is understaffed, with doctors poorly paid, often working more than 90 hours per week, struggling to cover the population's needs.

Conclusion: The leakage abroad of medical personnel and especially doctors, is a real, catastrophic phenomenon. It affects not only the NHS and the citizens' health services but also the evolution and the development of the society and the country. Therefore economic and social incentives should be offered in order to motivate health

professionals to stay and produce in Hellas or even attract those who have already left the country to return.

ETHICAL REGULATION IN HEALTHCARE - A PRIORITY, BUT UNDERESTIMATED FUNCTION OF PROFESSIONAL ORGANIZATIONS

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Ethical regulation in medicine dates back to centuries, from the time of Hippocrates to the famous Hippocratic oath. Today, classical ethical regulators of medical activity require a new reading of the Hippocratic Oath and new moral codes of medical associations. Ethical regulation is a key issue of organizational and management culture in the health system.

Professional medical ethics incorporates specific human relationships based on values and norms that determine the behavior of two social communities - medical staff and patients. The emphasis on the role and importance of values in medical communication requires a comprehensive approach to the formation and validation of shared values. Ideas for shared goals, shared values, humane relationships and mutual responsibility are crucial in the life of the health organization and in making management decisions.

In this direction, there are now major changes in the "doctor-patient interaction" that overcomes passive paternalism and grows into a real "doctor-patient" partnership. The patient is no longer a passive subject of influence but an active accomplice, partner of the physician and the healthcare organization in the whole healing process.

Ethical values determine the behavior of the human factor and influence the social climate and labor motivation. They are a leading component in the essence of organizational culture in general and should be seen as a structuring factor of modern management style. In this sense, ethical regulation is a problem, challenge and quality in the operation of the whole health system, not just its individual structures and personalities. This regulation also facilitates adequate communication between the supervisor and the subordinates and increases the motivation of the staff to work. Hence the particularly important key role of professional organizations for ethical regulation in the healthcare system. In this respect, despite some attempts, the analyzes show that the activities of professional organizations of doctors and health professionals are unsatisfactory. The established ethics committees for BMA are still not effective, they have limited formal activity. Legislative regulation of ethical professional regulation as a criterion for the evaluation of the effectiveness of professional organizations in Bulgaria needs to be regulated.

Key words: *professional ethics, ethical regulation, shared values, professional organizations.*

PSYCHO – SOCIAL ASPECTS OF DOCTOR'S PROFESSION AND MORBIDITY CONNECTED TO THEM

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The conditions at work and the specifications of the profession – doctor working in a hospital, are to be blamed for a great deal of the problems in their health as well as these concerning their psycho-emotional status. The review of the publications in our literature and the west Europe authors for the current decade aims to find out and to gather the main risk factors coming out of the doctor's work characteristics in hospital and to point out the leading disease tendencies of our contemporary practice as far as this profession is concerned.

Key words: *doctor's profession, psycho-emotional status, diseases*

VARIA

PSYCHOSOCIAL RISK FACTORS AND MENTAL FATIGUE AMONG AMBULANCE WORKERS

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Background: The work at emergency healthcare centers is characterized with significant physical and mental stress, shift work, night work, unpredictability at work, rapidly changing working conditions, violence, stress, interpersonal conflicts. Fatigue in the emergency medical services workplace may be related to high patient care loads, demanding work schedules, and associated stress. Half of ambulance workers report not getting the recovery they need between shifts and high levels of mental and physical fatigue while at work. In many surveys fatigue complaints are reported more often by women than by men and even more frequently by young, well-educated people. Ambulance workers are a group of workers where extended shifts, inconsistent shift patterns, poor sleep, heavy pressure of time and fatigue are common. We studied the levels of psychosocial risk factors and psychic fatigue among ambulance workers and the relation between them in this survey.

Methods: The study was conducted among 468 workers in emergency healthcare centers in Bulgaria in the period from December 2017 to April 2018. A sociological method was used - a survey. The results of the study are presented using descriptive statistics and Chi-square test. The male participants are 58.3% and 41.7% are female participants. The average age of participants is 50,65 ± 9,45 years, for women 50,01 ± 9,18, and 51,53 ± 9,77 men. The largest is the partition of the surveyed nurses 35.8%, followed by 26.1% of the ambulance drivers, the doctors - 18.1%, the medical paramedics - 14.2% and the sanitarians - 5.8%. Total length of service over 10 years have 88% of participants, and 63.6% have been employed in the present position for more than 10 years.

Results: The biggest part of participants think that psychosocial factors like shift work, night shifts, violence, stress, interpersonal conflicts have negative impact for their work. Their distribution is as follows: 78.8% of paramedics, followed by doctors – 73.7%, nurses 71.7%, ambulance workers 67.8% and sanitarians 44.4%. The analysis shows that 69.7% of men and 70.7% of women give positive answer of the question. Total share of participants which think that psychosocial factors have negative impact for their health are 70.5%. Respondents' responses to mental fatigue at the end of the workday shows that positive response give 46.6%, 23.7% responded with "rather yes", negative response are 18.2%. Mental fatigue is higher among women – 52.7%, among men is 37.9%. The distribution of mental fatigue at the end of working day by position shows that 64.3% of doctors, 59.1% of paramedics, 48.8% of nurses, 29.6% of sanitarians, and 28.1% of drivers suffer from it. The part of participants which think that psychosocial factors have negative impact for their health and at the same time they are psychic tired at the end of the working day are 54.4%. Negative answer on the both questions give 38.3% of respondents.

Conclusion: The work among ambulance workers is stressful and workload and the levels of psychosocial risk factors and fatigue among them are high. The synergy of these factors reporting excessive fatigue, high rates of morbidity and early retirement.

Key Words: *psychosocial risk factors, emergency healthcare, ambulance workers*

CARDIPULMONARY RESUSCITATION IN EMERGENCY MEDICAL DEPARTMENT BANJALUKA IN 2018

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There is no doubt that acute cardiac arrest and cardiopulmonary resuscitation represent the most dramatic situation of professional performance of doctors. The main objective of performing CPR is to provide oxygen to the brain, heart and other vital organs until more sophisticated measures of CPR restored heart function and breathing. Speed of providing urgent medical help is the most important factor and it is the key to the success of CPR. The largest number of successful resuscitation belong to those patients in whom CPR was initiated within 5 minutes after cardiac arrest and who provided it with additional therapy (ACLS) within a 8-10 min. of cardiac arrest. The highest percentage of successful resuscitation (56.36%) in Emergency Medical Department Banja Luka was recorded in the clinic, where it immediately began with the measures of resuscitation from the moment of cardiac arrest.

The highest percentage of successful resuscitation was recorded in the case of non-pulse ventricular tachycardia end ventricular fibrillation (90%). The largest number of reanimated patients were aged 51 and over 72, and there was a higher percentage of successful resuscitation in females. Of the total 118 in 2018., reanimated patients successfully reanimated were 34 patients (28.81%). A large number of deaths due to cardiac arrest occurred at home, or outside of the health facilities when professional medical help were not available. Implementation of early defibrillation (AED) is the most important link in the chain of survival, and the inclusion of the laity by providing education regarding basic resuscitation measures until emergency medical help arrives

Key words: *speed and success of CPR, staff education, AED, the latest guidelines of the ERC.*

NEW TECHNOLOGIES IN DIABETIC PATIENT TREATMENT AND FOLLOW-UP

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The incidence of diabetes mellitus is increasing significantly recent decades, exceeding predictions, despite the current treatment and follow-up options, a large number of patients do not achieve the desired therapeutic goals.

Continuous glucose monitoring systems (CGMS) are devices used to measure glucose in the interstitial fluid at a certain time interval over a different period. The

method is minimally invasive and involves measuring glucose concentrations in the interstitial and converting these values to blood sugar levels. A large number of modern monitoring systems have the ability to synchronize with devices for continuous subcutaneous insulin infusion (insulin pumps) to adjust the dose regimen and optimize their effectiveness.

The most used in practice are iPro (Medtronic), Guardian-REAL-Time / Paradigm-REAL-Time (Medtronic), FreeStyle Navigator (Abbott), Dexcom G5, G6 (Dexcom) because of proven reliability and safety. In recent years a new methodology was introduced, i.e. flash monitoring - the measurement is performed only when a reader is presented to the sensor - FreeStyle Libre (Abbott). At the beginning of 2018, a new long-life sensor was introduced that presents the glycemia for a sustained 90-day period - Eversense (Roche).

A greater opportunity to get closer to the real profile of a healthy pancreas is given with continuous glucose insulin infusion (insulin pump). The treatment includes infusion of rapid acting insulin (regular or analogue) as basal level and bolus to cover the meal intake. Recent years, the development of technology has enabled pumps to be combined with monitoring devices to improve glucose control and reduce hypoglycemic episodes.

RESULTS IN GENOTYPING SEROLOGICAL WEAK FORMS OF THE D ANTIGEN AMONG BLOOD DONORS OF REPUBLIKA OF SRPSKA

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Background: The D antigen, which consists of a mosaic of epitopes, is determined in all the blood donors and patients. Most people are either RhD-positive or RhD-negative, but there is a certain number of people who have a variation of the D antigen, which are called weak D, partial D and DEL phenotypes.

Aims: The objective is to use molecular methods to determine whether blood donors in Republika Srpska (with whom a serological weak D antigen has been detected) really have the weak D antigen. In addition, determine whether blood donors, who have been determined as persons who are RhD-negative, with the phenotypes C and/or E, who have the RHD gene and D antigen on the erythrocyte membrane, so weak that it could not be determined by serological techniques.

Methods: Blood samples were used from regular blood donors, who have been determined as persons with a weaker D antigen, as RhD-negative or as C and/or E positive (based on the agglutination strength) using serological techniques, the test tube method, the microplate method and the gel method.

Results: Blood group samples were collected from April 2016 to December 2018 in the Institute for Transfusion Medicine of Republika Srpska. During this period blood was collected from 95 525 voluntary donors. It was serologically proved that 255 donors (0.26%) had the weak D antigen. 165 respondents were proved to have weak D type 3 (65.47%), while 79 had weak D type 1 (31,34%). 7 respondents were proved to have the weak D type 14 (2.77%), while one respondents was determined to have DNB (0.39%). Among the serologically determined RhD-negative donors, 330 had C and/or E in the

phenotype and a molecular screening test was performed on them. A positive result of the molecular screening was determined with 31 donors (9,3%) and a negative result with 299 donors (90.6%). From 31 respondents, whose molecular screening was positive, weak D type 1 was determined with 3 (9,67%) donors, weak D type 3 with 3 (9,67%), weak D type 11 with 8 (25.8%), and with
17 (54.83%) donors it was undetermined.

Conclusion: The results from the first molecular testing of our population is in accordance with the results of frequency of weak D antigen in the populations of other European countries.

Key words: *The Rh system, D antigen, D weak, partial D, molecular method*

PREVALENCE OF MARKERS OF TRANSFUSION TRANSMITTED INFECTIONS IN BLOOD DONORS OF DOBOJ REGION IN THE PERIOD FROM 01.01.2014 UNTIL 31.12.2018

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Aim: The aim of this work is to present the results of mandatory tests to markers of transfusion transmitted infections (TTI) in blood donors in the Doboj region in a five-year period. Testing to markers of TTI in blood donors is the basis for safe blood supply.

Method: Serological screening testing were performed with ELISA tests of 3rd and 4th generation, producer BioMerieux (until March 2016) und Dia Sorin - Italy, Murex (from March 2016 until the end of 2018) on the automatic device Da Vinci Quattro. Control testing of repeated reactive samples were performed in the reference institution - The Institute for Transfusion Medicine of Republic of Srpska (ITM RS) in Banja Luka with CLIA technique on Architect Abbott device.Confirmatory serological testing of anti-HCV reactive and HIV AgAb reactive blood units were performed in the department of microbiology of the clinical center Banja Luka, with tests anti-HCV and HIV Duo Ultra ELFA on Mini Vidas device (BioMerieux). Retrospective study was done for the period from 01.01.2014 until 31.12.2018, according to data from the information system database of the ITM RS – center Doboj.

Results: In the above mentioned five-year period a total of 26 364 blood units were collected and tested. In serological ELISA screening tests a total of 276 (1%) blood units were preliminarily reactive, of which 107 (0.4%) units were reactive to HBs Ag, 47 (0.1%) units were reactive to anti-HCV, 64 (0.2%) units were reactive to HIV AgAb and 58 (0.2%) units were reactive to anti-TP (syphilis). There were a total of 34 (0.1%) confirmed positive blood units, of which 16 (0.06%) blood units were confirmed positive to HBs Ag, 11 (0.04%) units were confirmed positive to anti-HCV, 6 (0.02%) units were positive to anti-TP, and 1 (0.003%) unit was Murex and CLIA positive to HIV AgAb, and ELFA test negative.

Conclusion: Testing of blood donors to TTI in our institution is performed according to the mandatory testing algorithm and the confirmatory testing algorithm. The prevalence of the markers of infection in blood donors in the Doboj region is low, but the risk of transmission of infectious agents is still present due to the possibility of emergence

of new infectious pathogens. It is necessary to constantly work on improving preventive protective measures and to use the latest generation tests in screening blood donors.

ETHICAL OBLIGATION TO RELIEVE PATIENTS' PAIN

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Introduction: Chronic pain is defined as continuing 3 or 6 months of onset. It has been shown that persistent pain affects all health-related dimensions of quality of life. Patients often suffer from depression, anxiety, and sleep disturbances. Depending on the nature of the pain (nociceptive or neuropathic), non-opioid, opioid medications and alternative techniques are used to deal with pain.
Deontology as a science studies the professional duty. The duty of health professionals to their patients is moral and legal.

Methods: The aim of this study is to analyze the moral duty of health professionals in the management of chronic pain in several ethical codes. In order to achieve this goal, we have used general and private science methods and approaches, including documentary method, review of literature, analysis and synthesis, comparative method.

Results: In medicine, doctor's duty is advocated in the oldest ethical code which remain its significance nowadays - the Hippocratic Oath. There is no specific obligation to relieve pain, but we find the obligation "First do no harm". In the International Code of Medical Ethics once again we find the duty of high competence, professionalism and loyalty to the patient, but there is no special obligation to always alleviate his/her pain.

Conclusions: In modern times, ethical aspects of pain management, and knowledge about moral and legal duties of health professionals acquire momentum. Training in medical ethics is an important element in the basic and continuing education of competent specialists.

Key words: *moral duty; pain relieve; deontology*

HEALTH AND MEDIA. BETWEEN THE NEWS, THE SCANDAL AND THE TRUTH

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Since the beginning of mankind – from cave pictures of the man, wounded while getting food for his family, to the stone signs of exhausted and hungry people, to the famous "Anatomy Lesson" of Rembrand, up to the first press editions of Goutenberg people's health and of every one on the earth is part of the communication.
Health is an important part of the media information space, because it means readers, listeners, auditory – everybody cares about health from birth to death.

The main topic of the presentation is to emphasize how we use all communication channels nowadays and if it's always for the good. There're many questions and not so

much answers - how in a world, overloaded with information to use the health information: does the good health news "sell" the edition and "help" for the ranging of the media; are the scientific news presented as to be understood by the mass audience; where is the narrow line between private and public in healthcare issues. Everything that concerns children and their health problems is an object of special interest. To comment injury or death of a child is stunning, but where is the ethical boundary of all this?

At last but not least there are many questions that deserve their answers: how internet and the social media changed the health media role and who's to be responsible if the medical advice in internet is false and might cause harm.

The conclusions are not new, neither revolutionary. As the content is specific, the responsibility of the specialist – main source of information – is great, but sometimes the doctors are keen to show themselves. Then comes the role of the journalist, who is in a hurry to be the first, and care to check the facts. Important place have the NPO – some of their representatives are eager to criticize the doctors' decisions.

Conclusions are easy to be made, but difficult to concern – the meeting of a doctor with journalist should not be a battle of superiority, but symbiosis between the principles of the medical and journalistic ethics.

Key words: health, news, journalistic and medical ethics, fake news, social responsibility.

HASHIMOTO THYROIDITIS AS POSSIBLE PREDICTING OF FILLICULAR EPITHELIAL DYSPLASIA

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Background: Morphologically, the follicular cells of the thyroid gland on the background of chronic lymphocytic (Hashimoto) thyroiditis may exhibit atypical changes in the nucleus, including expansion of the nucleus, crowding, irregularities of nuclear membranes, intranuclear grooves and purification of chromatin. However, microscopic proliferative foci of thyroid follicular cells that exhibit these papillary thyroid carcinoma-like nuclear changes can also be observed. These foci with Hashimoto Thyroiditis (HT), which differ from the surrounding parenchyma, are less than 0.1 cm in size, do not have invasive growth, the structure of the papillary thyroid gland or intranuclear pseudo inclusions were termed by Chui et al. as follicular epithelial dysplasia (FED) and were considered as presumed premalignant conditions in chronic lymphocytic thyroiditis. Chui et al. also showed that FED foci exhibit an immunohistochemical (IHC) profile similar to papillary thyroid carcinoma (PTC). These results also confirm the concept of premalignant thyroid lesions occurring in conditions of severe chronic inflammation. (Chui et al., 2013).

Materials and Methods: A total 37 cases (27 patients with HT and 10 patients with PTC) of surgically resected thyroid lesions during 2018-2019 and retrospective data (for the years 2014), were collected from Surgical Units of Tbilisi Clinics for Interventional Medicine in Western Georgia region. Paraffin embeded and Hematoxylin and Eosin stained samples were used for histopathological examination. IHC staining was performed on Formalin-fixed paraffin embedded tissue sections with antibodies

against the following markers: 1. Thyroid transcription factor 1 (TTF1); 2. CD56; 3. p63.

Results: The main histopathological discovery in HT was the atrophy of the thyroid parenchyma, accompanied by lymphoid infiltration, lymphoid follicular hyperplasia, the formation of a secondary germinal center and an abundance of macrophages and plasma cells. Foci of thyroid follicular cells with atypical nuclear features (dysplastic foci) were also seen. In cases of HT without associated PTC, immunoreactivity from moderate to severe p63 was found throughout the thyroid parenchyma, including thyroid follicles, as well as squamoid regions, which is consistent with solid nest cells. In our study, similar pattern of CD56 and p63 immunoreactivity was observed in foci of PTC arising in the background of HT. Of particular note is the negative response to CD56 immunostaining in dysplastic epithelial regions (FED) HT, in which the nuclei of thyrocytes showed atypical signs, but did not have a constellation of nuclear signs of PTC.

CD56 AND P63 IMMUNOHISTOCHEMICAL PECULIARITIES UNDER AUTOIMMUNE THYROIDITIS VERSUS MICROPAPILLARY THYROID CARCINOMA (MPTC)

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Background: Hashimoto thyroiditis, which is classified as an autoimmune disorder affecting the thyroid gland, has been considered as a lesion preceding and predisposing to papillary thyroid carcinoma (PTC) by several authors. In contrast, the other clinical type of thyroid autoimmune disease - the Riedel's thyroiditis has not been evidenced to be a pre-cancer lesion.

Materials and Methods: This hypothesis encouraged us to undertake the morphological and immunohistochemical comparative assessment of these two types of thyroiditis (RT and HT) utilizing the diagnostic value of CD56 and the p63 immunohistochemistry in thyroid pathology. The surgical specimens of the thyroid gland, obtained from 45 patients were studied in total, including Riedel's thyroiditis (n = 8), Hashimoto's thyroiditis (n = 27) and papillary thyroid carcinoma (n = 10) as a control group.

Results and Discussion: Obtained results showed that autoimmune thyroiditis types are characterized by histological and immunohistochemical heterogeneity, however, pathological alterations in both processes (RT, HT) specifically demonstrated progressive involution of glandular tissue and replacement with rigid tissue, sometimes, scar fibrosis. The extremely negative CD56 and positive p63 expression were highly specific for papillary carcinoma in the setting of HT, which was not characteristic for the Riedel's thyroiditis specimens.

Conclusion: According to biomolecular research data, we could not exclude dysplastic and neoplastic transformation in progenitor cells within the parenchyma of Hashimoto's thyroiditis versus Riedel's autoimmune thyroiditis.

ASSOCIATION BETWEEN CERVICAL EPITHELIUM CYTOLOGY AND ENDOCRINE DISORDERS, INCLUDING OBESITY, FROM PAP-TEST DATA

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Background: The effects of endocrine disorders on the cervical epithelium reaction were studied on the Georgian population based of Pap-test survery.
Goal is to examine the association between endocrine disorders - obesity, metabolic syndromes (diabetes, thyroid dysfunction) and cervical Pap test results.

Study group includes 56 patients. According to the Georgian Low, written informed consult was required. From the study population, we used data of all 56 women aged 23-52 years, the socio - demographic status, level of education (non- high school graduate/ high school graduate), marital status were included.
Body mass index was calculated in kg/m² and divided as obese (BMI > 30kg/m²) or not obese (BMI ≤30kg/m²) persons.

Results:

1) Obesity is strongly associated with a low grade squamous abnormalities and undetermined significance (ASCUS) (2007 Bethesda system)
2) Hypertension, diabetes, thyroid dysfunctions provoke abnormal Pap. Smears - had history of STDs (Trichomonas vaginalis and genital HSV infection.
3) 22% of the morbid obese women had a history of primary infertility and significant differences in Pap test results, than women without these associations.

Conclusion: our study demonstrates an increased prevalence of abnormal Pap test (LSIL), high-risk of infertility and opportunistic endometrial infection compared with nonobese women.

THE IMPACT OF LIVER PROTEIN COMPLEX IMMOBILIZED IN NEUTRAL OINTMENT ON HOMOLOGOUS CELL PROLIFERATION

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Background: Hemangioma is one from widely spread benign vascular tumors seen in children. The spreading frequency of this pathology is 10-12% of Caucasian population. There are different methods for treatment of hemangioma, such as, laser therapy, hormone therapy, radiotherapy, chemotherapy, cryotherapy and surgical treatment. Due to the different forms of hemangioma, frequency of spreading and particularly, it's complications, such as, bleeding and ulcers, finding new, non-invasive treatment methods is an actual challenge. On this hand, we considered using endogenous cell proliferation protein complex immobilized in neutral ointment (base - white Vaseline 85%, Vaseline oil 15%). Based on our earlier data, we selected thermostable protein

complex derived from chicken's liver, which inhibits homologous cell proliferation activity. Neutral ointment was used as a protein complex delivery method.

Methods: Alcohol extraction of thermostable protein complex from adult chicken's liver and immobilization in neutral hydrocarbons ointment; determination of hepatocytes mitotic activity and total number of leukocytes in peripheral blood by light microscopy. Experiments were carried out on adolescent (7 days old) white rats. The liver tissue and peripheral blood were used as a research object.

Results: It has been shown, that neutral hydrocarbons ointment doesn't cause change of total number of leukocytes in peripheral blood. Thermostable protein complex immobilized in mentioned ointment reduces hepatocytes mitotic activity approximately 40% compared to control animals.

Conclusion: Chicken's liver thermostable protein complex immobilized in neutral ointment maintains inhibitory effect on rats' hepatocytes proliferative activity. Based on above data and possible positive results after analogous research on model system of vessels, we can use neutral hydrocarbons ointment as an effective delivery method of cell proliferation regulating protein factors.

EXPERIMENTAL EVIDENCE OF THE POSSIBILITY OF DELIVERY THE GROWTH INHIBITORY FACTOR IMMOBILIZED IN FUNCTIONAL POLYMER

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Background: Based on children's hemangioma spreading frequency and treatment difficulties, it is very important to find the new approaches in its diagnostics and treatments. To this point of view there is not the appropriate researches made on the multiplication factors of endothelial cells. In almost all mammals' cells it has been identified the growth regulating thermostable protein complex, which can inhibit homologous cells proliferation.

It is known that using functional polymer systems there is the possibility to control the time and the penetration of the medicines to the local area of action in the body. One of these functional polymers is a highly soluble in water compound of polyvinyl alcohol. Its properties allow us to suppose that this medium could be used to transport the medicals into the body for treatment of pathologies, include the pathologies expressed on the surface of the skin, such as hemangiomas. Considering many of the positive features of the functional polymer, we aimed to research polymer as a means of transporter of the natural growth inhibitory protein complex into the body.

Study of the effectiveness of the inhibitory impact of the thermostable protein complex (TPC) from adult chicken liver immobilized in polyvinyl alcohol functional polymer on the liver proliferation of the adolescent rat.

Methods: Experimental animals: adolescent (7 days) white rats and adult chickens. Liver tissue was taken as a study material. Methods: Thermostable protein complex ethanol extraction from adult chicken liver; Immobilization of isolated TPC in the

polyvinyl alcohol polymer; Determination the changes in histoarchitecture and mitotic activity of rats' liver tissue using light microscope on the paraffin embedded sections.

Result: It was shown that the adult chicken liver TPC in the polyvinyl alcohol functional polymer decrease the mitotic activity of hepatocytes by 27% compared to the control group. To use the polyvinyl alcohol functional polymers as a delivery medium of TPC do not cause changes in the liver histoarchitecture.

Conclusion: The chicken liver TPC, immobilized in the polyvinyl alcohol functional polymer, reaches and preserves the ability to inhibit the proliferation of homologous cells. Based on the results obtained, we plan to use the TPC immobilized in the functional polymer on the model of the vascular growth and evaluate its effect on proliferation of endothelial cells.

PROFESSIONAL AND PERSONAL RELATIONSHIPS AS AN ELEMENT OF A SOCIAL ADAPTATION IN PATIENTS WITH PSORIASIS

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Introduction: Psoriasis is a chronic-recurrent, immuno-modulated disease which affects the skin, high rates of a bunch of concomitant diseases and serious influence on the psycho-emotional aspects of the personality. Often the patients with psoriasis tend to be anxious, depressed or have even suicidal thoughts. The clinical picture, the inconvenience of using topical treatment and the need of prolonged therapeutic courses have an influence on the social adaptation of the patients, their complete integration in the family, the society and the occupational market.

Methods: The study includes 111 patients with psoriasis, which were hospitalized in the Departments of dermatology and venereology in Bulgaria for the time period from 2014 to 2016. According to the anamnestic data of the patients during their clinical examination and in correspondence with the criteria for severity of the disease of the European and the Bulgarian consensus, the patients have been divided in two subgroups – one with light symptoms of the disease and the other one with advanced to severe symptoms. For examination of the personal relationships in the occupational sphere a self-assessment questionnaires were used. The results have been processed via statistical methods.

Results: Every fourth patient with advanced and severe disease form /24,6%/ reports that he has lost his job because of the disease, and every third has refused important professional meetings /32,7%/. Personal relationships are also affected in a significant extent, especially in the severe forms, where 58,2% report, that they have refused to be in a relationship because of the disease, whereas 50,9% had the feeling that they have been rejected by the society because of it. Meanwhile 39,3% from the respondents say, that the attitude towards them from their fellow partner changes when a flare-up occurs.

Conclusion: The personal and professional relationships are influenced by psoriasis

to a significant extent. People with average form of the disease have been influenced the most. The discussion on measures for psychological and social support of the patients and their relatives is quite meaningful in order to have good therapeutic results.

HARMFULL EFFECTS OF TOBACCO ON THE ORAL HEALTH – ELECTRONIC CIGARETTES AS AN ALTERNATIVE TO THE SMOKERS

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Introduction: [1]Tobacco use is a leading global disease risk factor and underlying cause of ill health, preventable death, and disability. It is estimated to kill more than 7 million people each year across the globe, accounting for more deaths each year than HIV/AIDS, tuberculosis, and malaria combined. If current trends persist, tobacco will kill more than 8 million people worldwide each year by 2030, with 80% of these premature deaths taking place in the developing world. Various clinical and epidemiological evidence have been documented regarding the adverse effects of tobacco on oral health. The adverse effects of cigarette smoking and other forms of tobacco are numerous, use of tobacco has been associated with oral mucosa, gingival diseases and dental alterations. Saliva is a complex and important body fluid which is very essential for oral health. Saliva plays a critical role in oral homeostasis because it modulates the ecosystem within the oral cavity. Lubrication of the alimentary bolus, protection against virus, bacteria and fungi, buffer capacity, protection and repair of the oral mucosa and dental remineralization are some of the functions of saliva

Methods: Based on patients examined by the student of Dental medicine Simeon Simeonov in the Faculty of Dental Medicine, Medical University-Sofia here is a representative sample of risk groups: 25 smokers,35 non-smokers, 60 people in risk total of 60 people examined during the academic 2016-2017 year. The used methods for the research include graphical analysis and descriptive methods.

Results: As the risks and benefits of e-cigarettes continue to be studied future regulatory and intervention research may consider how e-cigarettes interact with other substance use and how may lead to quit or reduce smoking. Although e-cigarettes may reduce the morbidity associated with tobacco products the nicotine delivered by them still pose a risk of addiction.

[1]Long-term effect of tobacco on unstimulated salivary pH Neeraj Grover, Jyoti Sharma, Shamindra Sengupta, Sanjeet Singh, Nishant Singh, and Harjeet Kaur

IS THERE A ROLE OF SURGERY IN NON-SMALL CELL LUNG CANCER PATIENTS WITH ISOLATED ADRENAL METASTASES?

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Background: Regardless the numerous methods and screening programs for early detection of lung cancer a big proportion of patients are in stage IV at the time of diagnosis. Isolated adrenal metastasis (IAM) from non-small cell lung cancer (NSCLC) is a rare event and the management in such patients remains controversial. The concept of oligometastases and the hypothesis that they are a distinct clinical entity are a theoretical basis behind decision for treatment strategy in patients with isolated adrenal metastases in operable/operated NSCLC.

In the past metastatic NSCLC was considered as an incurable disease in most of the cases. In this setting, only salvage resection of single brain metastases was judged as a standard surgery in selected patients with controlled primary tumor.

Objective: To evaluate the long-term results after resection of isolated adrenal metastases in radically operated NSCLC patients with early locoregional stage as a part of multimodality treatment.

Methods: A total of eleven patients (mean age 58.4 years) with NSCLC underwent adrenalectomy for isolated adrenal metastases (IAM). IAMs were synchronous in 6 patients and metachronous in 5, 4 of them were contralateral and 7 ipsilateral. The patoanatomically proven locoregional stage was II in 10 patients and IIIA in 1 patient with single station N2 disease and involvement of group 5 mediastinal lymph nodes. One stage left lower lobectomy and left adrenalectomy through phrenotomy was performed in 1 patient. In 9 patients the curative lung resection was carried out first, followed by adrenalectomy (mean interval months) via paracostal laparotomy (3), transperitoneal laparoscopy (1) and retroperitoneal endoscopic adrenalectomy (REA) in 6 patients. In the last case Retroperitoneal Endoscopic Adrenalectomy (REA) was performed at a first stage, followed by right lower lobectomy. Two years after left lower lobectomy, the metachronous ipsilateral adrenal and contralateral lung metastases were eradicated by REA at first stage and right polysegmentectomy S7-S10 was done in second stage. All patients were followed up either to the end of the study or to their death (mean interval of **44** months). The survival was studied by Kaplan-Meier method.

Results: No perioperative death or major complications were observed, excluding one patient with late postpneumonectomy empyema without fistula, which was successfully treated by VATS modification of Weder procedure. The median hospital stay for the pulmonary resection was 6 days and 4 days for REA. Three patients are still alive until the last follow up (07.2019), two of them are disease free at the moment. The mean overall survival (OS) time is 44.8 months. One- and 3-years OS rate is 90.9% and 64.6%, respectively. Mean progression free survival (PFS) time is 29.3 months. One-year and 2-years PFS rate is 80.0% and 40%. There is no significant difference in median OS and median PSF time between synchronous vs metachronous IAM (p=0.208; p=0.364),

ipsilateral vs contralateral IAM (p=0.366; p=0.156) and laparoscopic vs conventional adrenalectomy (p=0.163; p=0.754).

Conclusions: Long term survival is possible with resection of IAM in carefully selected NSCLC patients with early locoregional stage without involvement of mediastinal lymph nodes. REA is a safe approach for adrenalectomy in this group of patients, without any oncological compromise.

LONG-TERM SURVIVAL AFTER PNEUMONECTOMY FOR ADENOCARCINOMA, SUCCESSFULLY TREATED LATE POSTPNEUMONECTOMY EMPYEMA AND ADRENALECTOMY FOR ISOLATED SYNCHRONOUS ADRENAL METASTASIS

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Background: The concept for oligometastatic disease is included in the 8th edition of the TNM classification for Lung cancer, where the patients with single extrathoracic mestastases are in M1b group. The decision for this differentiation is based on retrospective data which demonstrates better survival in this subgroup. Our case demonstrates that long term survival and long disease free interval can be reached even in patients with major postoperative complications and they are not contraindication for further surgical treatment of the isolated adrenal metastasis.

The well-known old concept for the protective effect of postpneumonectomy empyema against local recurrence of the cancer by activation of the immune response is controversial.

Case report: The patient is a 63 years old female with EGFR negative adenocarcinoma of the left lung- pT3N0M1 proven by True- cut biopsy and synchronous adrenal metastasis detected during the preoperative staging. The FOB was without pathological findings. The preoperative PET/CT showed negative mediastinal lymph nodes, left paracardial mass, size 35/53 mm and SUV 7, left adrenal mass, size 21/16 mm and SUV 4.2.

The patient was with different comorbidities: obesitas, diabetes, Diabetic nephropathy and neuropathy, hypertension and depression. The cardio- respiratory reserves were in normal ranges.

Left pneumonectomy and systematic mediastinal lymph node dissection were performed with uneventful early postoperative period. The patent refused proposed adrenalectomy a month following lung resection, and 6 cycles of polychemotherapy and radiotherapy were administer.

Six months later, the patient presented with late postpneumonectomy empyema without fistula of the bronchial stump. This severe complication was successfully treated by VATS modification of Weder technique, followed by obliteration of the pleural cavity with antibiotic solution in compliance with the antibiogram.

Left Retroperitoneal Endoscopic Adrenalectomy (REA) was performed 4 months later without complications. The histology showed an adrenal metastasis without capsular invasion.

On the follow up, 17 months later on the patient presented with intraabdominal lymph node near celiac artery with SUV=3. It was removed by upper median laparotomy without complications and confirmed as metastatic by the histology.

The next annual PET/CT showed no other progression, except one lymph node near the origin of the left common carotid artery. The patient was locally treated by radiosurgery with good result, followed by chemotherapy.

On the last follow up (06.2019) no data for recurrence was found and at the moment the patient is disease free four years after the diagnosis and initial surgery.

Conclusions: Long term survival can be achieved by adrenalectomy for isolated NSCLC metastases even in patients with previous extended resection (pneumonectomy), followed by late major postoperative complications. We feel that postoperative oligo progressions could be successfully treated by local therapy (surgery or radiotherapy), combined with chemotherapy.

ADULTS WITH SKIN MALIGNANT TUMORS IN THE FIELD OF EYELIDS

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The seven-layered structure of the eyelids determines the difficulty in its reconstruction after a radical excision of tumors in the area. Primary reconstruction aims to achieve primary protection of the eyeball, and the refinement in the final occlusion of the palpebral cleft imposes a second or even third surgical stage. In the primary reconstruction, the surgeon can choose between a local flap or a skin graft.

Techniques have their advantages and disadvantages from a functional, oncological and aesthetic point of view. We present an analysis of surgical techniques in eyelid tumors and our own experience in 32 patients with malignant tumors of the skin in the periorbital area. The analysis of the results shows that in T1-2 tumors, the retro-auricular graft at the highest degree provides the opportunity for prolonged oncological surveillance of the area and in a proper surgical technique, gives an excellent aesthetic and very good functional result.

However, we believe that in patients with possible retraction for years, occlusion could be compromised by a distance of 2-3 mm, and in the presence of ophthalmic problems should be built with a Tripier homolateral flap. In T2-3 tumors, the total eyelids excision imposes a locoregional flap combined with mucosal reconstruction of the conjunctiva from the oral cavity.

DRUG ADDICTION TREATMENT – OUR EXPERIENCES

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Objective: The process of treatment with detoxification involves performing procedures where the use of specific medication-buprenorphine, as a way of managing opioid withdrawal as a product of consuming psychoactive substances. In this study, we evaluated the detoxification protocols with buprenorphine from 2009 until 2019.

Method: Evaluation of the performance and quality of detoxification with buprenorphine compared to other detoxification treatments /symptomatic, trodon, methadone/ using scales for assessment of abstinence syndrome / OOWS, SOWS /,which for the duration of detoxification are made everyday. Patients with diagnosis of opioid use disorder were treated according to Clinical Guidelines for the Use of buprenorphine in the treatment of opioid use disorder-Treatment Improvement Protocol (TIP 40). Results: Until 2019, every month a total of 285 patients are receiving treatment for opioid use disorder with buprenorphine. Mean age is 32,5 year. This number varies from month to month. The average dose for one patient per day is 11mg. Eleven patients who were treated with this medication during whole their pregnancy born healthy children. Drop out in patients detoxified with this protocol amounted to 6 % compared to drop out in patients on other protocols of detoxification, which amounted to 30 %. Quantity symptomatic therapy /psychostabilizers, hypnotics/ which is utilized in the buprenorphine treatment than other detoxification treatments was lower by 50 %. Conclusion: Buprenorphine in detoxification of opioid addicts has proven to be more effective than other types of detoxification/tramadol, methadone/. Smaller drop-out, better compliance, lower doses of other psychopharmacs, supports buprenorphines detoxifying patients who decide for this type of treatment. It is a safe and effective agent for detoxification from opioids and can be used as a first line agent in maintenance programs, owing to its lower abuse potential relative to other opioids.

Key words: *Opioid use disorder, Buprenorphine, Detoxification*

PSORIASIS AND HEREDITY

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Introduction: Heredity in psoriasis is well known to the scientific community, but a specific gene, which is responsible for the disease hasn't been found yet. So far it's clear that genes, connected to chromosomes 1,4,6 an 17 participate in the building of the complicated pathogenic mechanism, which indicates for a polygeneous inheritance.

The correspondence of the genes with each other is being influenced from different environmental factors and there is a various variable expressivity, which complicates the examinations. Stress, bacterial infections, traumas and some medications have a serious

role in the development and the acute onsets of psoriasis. The data on heredity vary, according to different scientists. Some studies show that 5 to 91% have a heredity on psoriasis. Bulgarian authors found out that one fourth of the patients have a family member who has or had the same disease. But it is still unclear if this heredity determines worse clinical development.

Methods: Anamnestic data for the heredity in psoriasis has been collected in a group of 111 patients, which were hospitalized in few Departments of dermatology and venereology in Bulgaria for the time period from 2014 to 2016. According to the anamnestic data of the patients during their clinical examination and in correspondence with the criteria for severity of the disease of the European and the Bulgarian consensus, the patients have been divided in two subgroups – one with light symptoms of the disease and the other one with advanced to severe symptoms. The frequency of the hereditary cases has been monitored for all the patients and the different subgroups.

Results: Heredity has been established in 31,8% from the cases, also the patients reported that the disease has had a manifestation in their children. Almost 7% have a brother or a sister with psoriasis, another 5% - other relatives with psoriasis. The subgroups have shown that in the light form of the disease, the inheritance is 19,6% according to the reporting patients, while in people with more advance or severe form it reaches 42,% which is statistically significant. In the group of the light forms 11,9% have a parent or parents diagnosed with psoriasis. In the severe forms the percentage is 6,5%, but 25,5% of them also report for close or not so close relatives with psoriasis, including also children. This circumstance has not been observed in the lighter forms of the disease.

Conclusion: The role of heredity in psoriasis has been confirmed. The data for psoriasis on family members, close relatives etc. doubles the opportunity that the disease could evolve into the more clinically severe forms.

STROKE CAUSES IN YOUNG ADULTS

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Background: Stroke in younger people is less common, however, it can be devastating in terms of productive years lost and impact on a young person's life. The last statistic data show that approximately 10% of all strokes occur in individuals 18 to 50 years of age, mostly due to vascular risk factors: arterial hypertension at 52%, hyperlipidemia at 18%, diabetes at 20%, coronary heart diseases at 12% and current smoking at 46%. Ischemic stroke is the most common stroke type. In the ischemic stroke the 30-day case fatality rate is 4.5%, one-year mortality among 30-day survivors is 2.4%.

The aim of the study was to find out the causes of stroke in young adults (18-50 years).

Method: In the Cerebrovascular Diseases Department-University Clinic of Neurology in Skopje, 164 hospitalized young stroke patients (18-49 years) (3-year period, total 1284 stroke patients) were treated and analyzed due to some risk factors (arterial hypertension, diabetes mellitus, smoking, hyperlipidemia, arrhythmia).

Results: Ischemic strokes was in majority (n=144), men 59.7% (aged 43.3±5.1) versus women 40.3% (aged 42.5±7.4). Hemorrhagic stroke was only 13.89%. Hypertension appeared in 68.7%; diabetes in 22.9%; smoking in 85.4% and hyperlipidemia in 11.8%. Men had insignificantly higher mean age than women (p>0.05). Arterial hypertension appeared insignificantly frequently in men (p>0.05); diabetes more frequently but insignificantly appeared in women versus men. The smokers were majority in ischemic stroke patients, but no significant difference between gender was found (men 89.5%; women 79.3%; p>0.05). Hyperlipidemia (men 11.6%; women 12.1%; p>0.05) and arrhythmia (men 6.98%; women 12.07%; p>0.05) appeared less frequently in both groups (p>0.05). In both genders mortality was insignificantly present (men 4.6%; women 8.6%; p>0.05).

Conclusions: Analyzed data showed that the leading stroke causes in young adults were hypertension and smoking in our study, that`s why the stroke causes-conventional risk factors must be targeted aggressively.

Keywords: *stroke, young's, risk factors*.

THE "DOCTOR-PATIENT" RELATIONSHIP - A PROFESSIONAL PROBLEM OF GROWING IMPORTANCE

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Summary; Primary care in Bulgaria is regulated as a top priority of the national health system, which has a key role in the quality of medical care in general. A major figure in this sector is the general practitioner (GP, personal doctor). An essential aspect of the activity of the GP, which is directly dependent on the quality of medical care, is the "doctor-patient" relationship, which is complex and depends on a number of factors: communication culture available doctor, patient trust in the GP,

In this report, we place emphasis on patient confidence as an ethical indicator and a criterion with a particularly important role for quality and patient-patient interpersonal relationships. Data from a specific empirical survey conducted in a large region of Bulgaria show that the majority of respondents have confidence in their GP - a total confidence rating of 48.6% and a certain confidence of 34.5%. This is a good attestation of personal doctors in this region. But at the same time, 17% of respondents do not have enough trust or do not fully trust their GPs, which is a problem in their mutual relations with the personal doctor, in the quality of primary medical care and at the same time leads to a decrease in patient satisfaction. It is concluded that it is necessary to collect constant reliable sociological information about the activity of GPs, by which to analyze and evaluate the "doctor-patient" in the interest of the high quality of their activity and the public satisfaction with the primary medical care.

Key words: *ethical criteria, priorities, patient-to-patient relationship, trust, social information.*

TIME MANAGEMENT - A PRIORITY ORGANIZATIONAL PROBLEM IN HEALTH CARE

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Summary: Resource efficiency is a key issue in healthcare management. Analyzes show that they are very often wasted, without a clear focus on specific priorities and goals of the healthcare organization. Therefore, interest in time as a resource in healthcare has increased over the last decade, but the literature in this area is still limited. There is a need to analyze time as a priority resource of the healthcare system, which, together with other resources, requires competent and efficient management. Time management is already being evaluated as a compulsory element of the professional competence of the healthcare manager.

In the context of management, time should be viewed in two main directions - as a resource and as a managerial function that puts the contemporary healthcare manager facing new large-scale professional challenges and requires a new style of thinking and professional skills.

A time audit system should be included in time management. It can determine the cost structure of medical staff time and develop a realistic schedule for the healthcare facility in accordance with its specific objectives.

Keywords: *time management, time cost, priority resource, time audit.*

ADEQUATE INFORMED CHOICE OF NUTRITIONAL SUPPLEMENTS AS A HEALTH PROMOTION FACTOR

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Summary: In modern conditions, consumption of food supplements increases yearly at very high rates. However, expert analyzes show that inadequate choice of appropriate nutritional supplements, failure to comply with dose regimen and duration of intake may cause serious adverse side effects. This leads to a certain **conflict** between free access and right choice through the correct judgment of the consumer on the one hand and the possible serious consequences of inappropriate intake of inappropriate dosage and duration of consumption on the other hand.

Hence, the underlying problem of a properly informed choice of food supplements by consumers arises. The right choice of dietary supplements is directly related to the level of health culture and health literacy of the population. Data from a specific empirical survey show that a significant percentage of respondents have little or no information on nutritional supplements, their role, their specific qualities, their positive effects and the risks of their consumption. For the level of nutrition awareness of the population, special attention should be paid to the role of **media advertising**, the still misleading and misleading maximalist advertising. In this respect, marketing should be reassessed and improved, with a special emphasis on the need for **socio-ethical marketing** of food supplements. This approach is needed because of the important and growing role played by the consumption of nutritional supplements to promote health.

Keywords: *informed choice, nutritional supplements, dose regimen, health literacy, advertising, social-ethical marketing.*

CLASSIFICATION OF SYNAPTIC TYPES IN THE DORSAL CLAUSTRUM OF THE CAT

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The claustrum is a bilateral subcortical nucleus, situated between the insular cortex and the striatum in the brain of all mammals, including the human. The claustrum is divided into two subdivisions: dorsal and ventral claustrum, according to their embryological origin. The claustrum is considered to be the most densely connected structure in the brain, allowing for integration of various cortical inputs. The claustrum is highly connected with different areas of the cortex, subcortical and allocortical structures. It has been suggested that various connections relaying information to the claustrum have different types of synaptic contacts at the level of claustral neurons.

The aim of our study was to examine and describe the synaptic organization of the dorsal claustrum of the cat. We examined a total of ten male adult cats and conducted an ultrastructural study of the types of synaptic contacts using a transmission electron microscope. Herein, we described six different types of synaptic boutons, based on the size and shape of terminal boutons, the quantity and distribution of vesicles. In our study, we classified the synapses in the dorsal claustrum of the cat in the following way: axo-dendritic, axo-somatic, dendro-dendritic, axo-axonal, synaptoid contacts between a myelinated fiber and a dendritic profile and non-specific desmosome-like contacts. The described synaptic boutons demonstrated various type of vesicles and formation of different synaptic contacts – symmetrical and asymmetrical. Most of the synaptic boutons, described in our study, formed asymmetrical synaptic contacts.

In conclusion, our study proposes the first systematic classification of the types of synaptic boutons and contacts observed in the dorsal claustrum of the cat.

FORENSIC APPROACH IN SEXUAL ASSAULT CASES

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In forensic medical practice, sexual assaults cases are very common. This is very specific and vulnerable field of expertise where crucial evidences can be lost, or destroyed if the examine of the victim is not performed under the strict protocols which are in the field of forensic-medical specialization. All procedure start with an order of the public prosecutor. Anamnesis should be taken by the forensic medical doctor who is trained how to overcome stress of the victim and to get necessary information for the case. Full body and gynecological examine must be performed where all the injuries should be in detail described and photographed. During the gynecological examine speculum is not used, only visual inspection on vagina and anus as well as founding's on the hymen in detail must be described and photographed. Swabs from the vagina, anus and other body parts like breasts or stomach must be taken for semen detection with specific test like PSA, and after to be continued with forensic DNA analyses. Even if the semen is not detected it is

strictly recommended forensic DNA analyses to be done, because from epithelial cells of the perpetrator DNA profile can be obtained. Very important is not to forget fingernail debris from the victim to be taken from all fingers on both hands and clothes to be in detail examined for eventually presence of the body fluids from the victim and from the perpetrator. Forensic medical examination in sexual assaults should be performed as soon as possible because as time passed evidences can be destroyed or loosed. After forensic examination victim must be proceed on gynecologist for further medical treatment. Very important part of this kind of expertise's is forensic medical examination of the suspected perpetrator to be done too, where all body injuries must be in detail described, fingernail debris from all fingers to be taken, swabs from the penis and hairs from pubic and head region to be taken, detail description of his clothes where body fluids can be found and to be proceed for further forensic DNA analysis for personal identification of the biological findings.

Key words: *sexual assault, forensic examination, forensic DNA*

NON-INVASIVE PRENATAL DETECTION OF FETAL MATURITY USING ULTRASOUND DENSITY OF FEAL LUNGS AND TOTAL PULMONARY VOLUME

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Background: Neonatal respiratory distress syndrome occurs as a consequence of atelectasis due to hyaline membrane disease, and is one of the main biggest causes of fetal mortality. The main motive of performing this study is timely determination of fetal maturity with noninvasive methods that provide timely treatment, lowering the risk of complications from invasive intervention and determining the optimal dose of fetal lung maturation treatment depending on the fetal response to the given therapy.

Methods: The study is a prospective observational-interventional clinical study. During this study we examined 100 patients of which 50 with impending preterm birth (studied cases) and 50 control cases. The study was performed at the University Clinic of Gynecology and Obstetrics, Medical Faculty, University "Ss. Cyril and Methodius", Skopje, Macedonia. In the study, fetal maturity was examined before and after treatment using the following indicators: Measurement of total pulmonary volume and histogram intensity signal from fetal lungs compared to the density of the fetal liver. Patients were divided into five groups: 28-30 g.n .; 30 (1 day +) -32 g.n .; 32 (1 day +) - 34 g.n .; 34 (1 day +) -36 (+ 6dena); ≥37 weeks (controls). The investigation was performed in two measures, before and 72 hours after given treatment, Amp. Betamethasone a 14 **mg / II dose / 24h, according to a standard** protocol for fetal lung maturation. The results were followed for up to 72 hours, and then compared with the extent of postpartum respiratory distress syndrome, which was used as the gold standard. If the patient was not delivered up to 72 hours of measurement, it was excluded from the study.

Results: Total pulmonary volume increase linearly with gestational age. With increasing gestational week, histogram intensity signal from fetal lungs compared to the density of the fetal liver was approaching the number 1. Both methods showed significant difference before and after the administered therapy protocol for fetal lung maturation.

Both methods showed significant correlation with lamellar body count. Regarding the prediction of respiratory distress syndrome, both methods showed significant results in all groups, with significance of p <0,0001**.**

Conclusion: The methods: Measurement of total pulmonary volume and histogram intensity signal from fetal lungs compared to the density of the fetal liver, were with high sensitivity and specificity in the prediction of fetal maturity with significance p <0,0001; These methods gives us the opportunity to determine which group of patients according to gestational age of the fetus have best treatment response and where it is necessary to be repeated to get a better fetal maturity and thereby to reduce the fetal mortality and morbidity that are among the main objectives of the action plan of the World Health Organization in 2012 and Healthy people 2020.

РЕЗУЛЬТАТЫ ИССЛЕДОВАНИЯ ПО ВЫЯВЛЕНИЮ ХАРАКТЕРА И МЕДИКО-СОЦИАЛЬНЫХУСЛОВИЙ СОЗДАННЫХ ДЛЯ ПРОФЕССИОНАЛЬНОЙ ДЕЯТЕЛЬНОСТИ ВРАЧЕЙ

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Актуальность: Врачи представляют собой специфическую профессиональную группу, имеющую квалификационные (по отношению к другим медицинским работникам) и целевые (по отношению к любым другим профессиональным группам) отличия. Их деятельность связана с высокой степенью нервно-психического и физического напряжения, исключительной социальной ответственностью, необходимостью большого объема специальных знаний и умений, способностью к их творческому применению, а также с постоянными рисками. Затраты времени на получение профессионального медицинского образования в среднем составляют 9 лет.

Цель исследования: Выяснить медико-социальные условия, созданные для профессиональной деятельности врачей.

Материал и методы исследования: Изучение медико-социальных условий, созданных для профессиональной деятельности врачей, проведено путём анонимного анкетирования. Целевую группу составили 493 врачей, работающих в Республике Каракалпакстан. Исследование проведено с декабря 2018 года по март 2019 года.

Результаты и их обсуждение: Самое большое количество респондентов принимавших участие в анкетировании были в возрасте 41-50 лет. Пол опрошенных респондентов разделился следующим образом, 184 (37%) мужчин и 309 (63 %) женщин. 273 (55%) респондентаимели стаж работы более 20 лет. Квалификационная категория врачей имеет не только профессиональное, но и социальное значение. Врачи, которые имеют квалификационную категория получают значительные денежные надбавки к заработной плате. 203 (41%) респондента имели высшую категорию, первую и вторую 115 (23%) и без категории врачей составили 175 (36%). Респонденты оценили свое здоровье следующим образом, хорошее - 212 (43%), удовлетворительное – 244 (49%), плохое

ответили – 37 (8%). На вопрос: Как часто Вы обращаетесь к врачам? Прохожу ежегодно медицинский осмотр, ответили 216 (44%) респондента, ежемесячно обращаюсь к врачам, ответили 21 (4%) респондента, в год 2-3 раза и очень редко ответили 256 (52%) респондента. Получение квалифицированной медицинской помощи для врачей является также одной из актуальных задач связанных с охраной их здоровья и социальным пакетом льгот. Возможность врачам свободно получать качественную и квалифицированную медицинскую помощь по месту работы, способствует снижению количества больничных листов, продолжительности дней отсутствия на работе, связанной с болезнью или травмой, увеличит показатели их производительности труда, а также возложение обязанностей во время их отсутствия на коллег. В этой связи, на вопрос: Имеете ли Вы возможность получения бесплатной медицинской помощи по месту своей работы? Респонденты ответили следующим образом. Да, конечно – ответили 323 (66%), нет и затруднялись ответить 170 (34%) респондента. Умелое распределение времени, определение приоритетов позволит повысить коэффициент производительной деятельности и качества работы. На вопрос: Сколько ежедневно рабочего времени вы тратите на заполнение документаций? 274 (56%) ответили около половины рабочего времени.

Одной из главных задач врачей является организации помощи в формирование у пациентов здорового образа жизни. Врачи остро нуждаются в современной информации о медицинской культуре, которую они в дальнейшем использует при беседе с пациентами. На вопрос: Из какого журнала Вы получаете современную информацию, связанную с повышением медицинской культуры у пациентов? респонденты ответили следующим образом, 155 (31%) Журнал Бюллетень Ассоциации врачей Узбекистана, 165 (33%) Медицинский журнал Узбекистана, 75 (15%) Вестник врача общий практики Узбекистана, 18 (4%) Журнал Неврологии и 80 (16%) респондентов получают информацию из других источников.

Одним из важных вопросов связанных с трудовой деятельностью врачей является нагрузка. На вопрос: Не сложно ли Вам выполнять функциональные обязанности? Респонденты ответили следующим образом, нет, не сложно - 229 (46%) и нагрузка очень большая, ответили 101 (21%) респондента, считаем, что надо снизить нагрузку, ответили 163 (33%) респондента.

При возникновении профессиональных проблем врачи обращаются в вышестоящие организации. На вопрос: К кому Вы обращаетесь при возникновении у Вас проблем, респонденты ответили следующим образом. В Министерство здравоохранения и областные управления здравоохранения – 228 (46%), в Ассоциацию врачей Узбекистана – 22 (5%), Федерацию профсоюзов Узбекистана 99 (20%) и руководству лечебно-профилактического учреждения по месту работы ответили – 144 (29%) респондентов. Это может означать, что респонденты в первую обращаются к руководству лечебно-профилактического учреждения по месту работы и когда уже не могут получать необходимую помощь обращаются в другие государственные или профессиональные организации.

Получение необходимой помощи от руководителя лечебно-профилактического учреждения является наиболее доступной возможность, поэтому основной задачей является повышение квалификации руководителей

лечебно-профилактических учреждений по вопросам предоставленных социально-правовых условий профессиональной деятельности врачей.

Удовлетворенность работой является важным компонентов каждого врача, на вопрос: На сколько Вы удовлетворены своей работой? Удовлетворены - 25 (5%) респондентов, частично удовлетворены, частично нет, ответили - 228 (46%) респондентов, полностью удовлетворены 151 (31%) и затрудняюсь ответить – 89 (18%) ответили респонденты.

Выводы: Таким образом, результаты анализа данных показали, что около половины респондентов редко обращаются к врачам, большую часть рабочего времени тратят на заполнение документов, треть врачей в первую очередь при возникновении проблем обращаются к руководителю лечебно-профилактического учреждения, около половины респондентов удовлетворены своей работой. Эти данные могут быть использованы при разработке плана мероприятий по дальнейшему улучшения медико-социальных условий для врачей.

ИСПОЛЬЗОВАНИЯ ТЕСТИРОВАНИЯ ДЛЯ ОПРЕДЕЛЕНИЯ ОРГАНИЗОВАННОСТИ РУКОВОДИТЕЛЕЙ ЛЕЧЕБНО-ПРОФИЛАКТИЧЕСКИХ УЧРЕЖДЕНИЙ

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Актуальность: Профессиональная компетентность руководителей лечебно-профилактических (ЛПУ) напрямую связано с качеством медицинской помощи. Для повышения качества медицинских услуг руководители ЛПУ должны знать методы управления за ресурсами. В тоже время эффективное использование всех ресурсов ЛПУ напрямую зависит от уровня знаний, умений, навыков, организованности, профессиональных качеств руководителей любого звена на всех этапах организации лечебно-диагностического процесса, обусловливая тем самым ее результат.

Цель исследования: Определение организованности среди руководителей лечебно-профилактических учреждений различного звена начиная от руководителей заканчивая санитарками.

Материалы и методы исследования.Оценка уровня компетентности руководителей ЛПУ проводитьсяпутем экспертнойоценки, тестирования, анкетирования, самооценки, которая включает следующие этапы: формирования списка оцениваемых работников, анализ анкетных данных, определение набора профессионально важных качеств, оценка использование личностных потенциала, обработка результатов оценки, принятие управленческих решений.Исследование проводилось в 2019 году для изучения организованности руководителей ЛПУ. Всего приняли участие 88 респондента, из них главных врачей-11, заместителей главных врачей, включая заместителя по медицинским и общим вопросам - 21, главных бухгалтеров и экономистов - 13, а также заведующих отделений-22, главных и старших медсестер-14, сестер хозяек-7. Всего были составлены 13 тестовых вопроса, участники тестирования должны были выбрать один из 50 предложенных вариантов ответа,каждый вопрос состоял из четырех или двух вариантов ответа. Ответы в зависимости от их актуальности оценены

соответствующими баллами от 0 до 6.Оценка результатов респондентов приводилось согласно разработанной форме (Табл.1).

Таблица 1. Оценка результатов тестирования

Балла	Характеристика руководителя
От 72 до 78 баллов включительно.	Руководитель организованный. Единственное, что можно посоветовать, не останавливайтесь на достигнутом, развивайте самоорганизацию.
От 68 до 71 баллов включительно.	Вы считаете самоорганизацию неотъемлемой частью своего «я». Это дает Вам несомненные преимущества перед людьми, которые призывают организацию «под ружье» в случае крайней необходимости. Тем не менее Вам необходимо внимательнее присмотреться к организации личной работы.
Менее 63 баллов	Ваш образ жизни, окружение научили Вас быть кое в чем организованным. Организованность то проявляется в Ваших действиях, то исчезает. Это признак отсутствия четкой системы самоорганизации. Постарайтесь проанализировать свои действия, расходы своего времени, технику личной работы.

Общий результат был определен путем вычисления суммы баллов каждого участника тестирования, который выбирал тот или иной вариант ответов.

Результаты и их обсуждение: Анализ и вычисление среднего балла показал, что самые лучшие баллы были набраны главными врачами (табл.2).

Таблица 2. Результаты тестирование среди респондентов

№	Наименование должностей	Количество респондентов	Средние баллы на одного респондента
1.	Сестры хозяйки (библиотекари)	7	53
2.	Главные медицинские сестры	14	48
3.	Главные бухгалтера (экономисты)	13	46
4.	Главные врачи (директора)	11	57
5.	Заведующие отделений	22	51
6.	Заместители главных врачей	21	56
	Всего респондентов/средний балл	**88**	**51**

Выводы:Таким образом, результаты тестирования 88 респондентов показал, что у всех участников был получен один результат, то есть «Ваш образ жизни, окружение научили Вас быть кое в чем организованным. Организованность то проявляется в Ваших действиях, то исчезает. Это признак отсутствия четкой системы самоорганизации. Постарайтесь проанализировать свои действия, расходы своего времени, технику личной работы».

ИСПОЛЬЗОВАНИЕ АНКЕТИРОВАНИЯ КАК ОДНОГО ИЗ МЕТОДОВ ОЦЕНКИ СРЕДИ ПАЦИЕНТОВ ПОЛУЧАЮЩИХ САНАТОРНО-КУРОРТНОЕ ЛЕЧЕНИЕ

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Введение: Одним из путей улучшения ситуации в сфере здравоохранения - является возрождение профилактики заболеваний, в том числе улучшение и развитие санаторно-курортного комплекса и санаторно-курортной помощи населению как наиболее эффективной составляющей медицинской профилактики.

Целью исследования явилось изучение и оценки деятельности санаториев путём использования анкетирования отдыхающих.

Материал и методы: Анкета состояла из 12 вопросов. Каждый вопрос оценивался по 4-х бальной системе, где 5 означало - отлично, 4 - хорошо, 3 - удовлетворительно и 2 - неудовлетворительно. Анкетирование проводилось методом выборочного опроса пациентов, в котором участвовали 370 респондентов.

Результаты и их обсуждение: Санатории и дома отдыха по манере отношения с пациентами должны отличаться с учреждениями общелечебной сети, с акцентом на более уважительным и любезным отношений. На вопрос, которым предполагалось выяснить уважительное общение отдыхающих, респонденты ответили следующим образом: неудовлетворительно и удовлетворительно 6 (2%), хорошо 86 (23%) и отлично ответили 278 (75%). Своевременное выполнение назначений врачей может существенно улучшить качество медицинской помощи, на вопрос назначений своевременно ли выполняются назначения врачей в санатории, респонденты ответили следующим образом на «отлично» и на «хорошо» ответили – 363 (98%) респондента. На вопрос о качестве проводимой санаторно-курортной помощи в лечебных отделениях, 365 (99%) респондентов ответили «хорошо» и «отлично». Важная роль при организации качественной работы относиться среднему медицинскому персоналу. Основную нагрузку при организации санаторной помощи в санаториях несут медицинские сестра. На вопрос как вы оцениваете деятельность среднего медицинского персонала, 364 (98%) респондентов ответили, как «хорошо» и «отлично». На следующий вопрос как вы оцениваете частоту спального помещения, смену постельных принадлежностей и полотенце, нами получены следующие ответы 348 (94%) ответили «хорошо» и «отлично», 22 респондента ответили на «удовлетворительно» и «неудовлетворительно». В зависимости от диагноза заболевания назначается стол для отдыхающих. На вопрос соблюдают ли чистоту сотрудники столовых, на оценку «отлично» и «хорошо» ответили 368 (98%) респондента. На вопрос по оформлению столов и сервировок 355 (96%) респондентов оценили, как «отлично» и «хорошо», а качеством и разнообразием питания были неудовлетворение 1 (0,5%) респондент и удовлетворены 28 (7%), а 341 респондента ответили «хорошо» и «отлично».

Еще одним из отличия организации санаторного лечения является наряду с санаторным лечением, организация культурных мероприятий в санаториях, которые проводятся в виде проведения экскурсий на места исторической памяти, памятники культуры, встреч с поэтами и писателями, а также концертов

знаменитых артистов. На как вы оцениваете проведение экскурсий 351 (95%) респондентов ответили на «хорошо» и «отлично», остались удовлетворёнными 19 (5%) участника. На вопрос о проведении концертов и встреч с поэтами и писателями 353 (95%) респондентов ответили на «хорошо» и «отлично», остались удовлетворёнными 17 (5%) участника.

Выводы: С учетом вышеизложенных, использование данной формы анкетирования может выявить слабые стороны санаториев. Это в свою очередь может помочь организаторам здравоохранения решать проблемы, выявленные в ходе анкетирования.

NUCLEAR MEDICINE IMAGING IN BREAST CANCER

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Breast cancer (BC) is the most common cancer among females with more than 2 millions new cases diagnosed and about half million related deaths worldwide in 2018. Although the prognosis is in majority of cases is mainly good, in relation to the early stage and appropriate treatment, there are still about 30% of patients who will develop locoregional diseases and distant metastases.

The staging system most often used for BC is the American`s Joint Committee on Cancer TNM system based on 7 criteria - extent of tumour (T), spread to nearby lymph nodes (N), spread (metastases) to distant sites (M), grade of the cancer (G), estrogen receptor status (ER), progesterone receptor status (PR) and Her2/neu (Her2 status). Breast cancer is not just a single disease and it seems to be very heterogenous.Molecular analyses in addition to routine pathological examination are able to show the whole extent of diversity among BCs. Additionally it is useful in characterizing lesions, predicting prognosis and therapy response in BC patients.

Nuclear medicine imaging modalities (conventional and PET) are of indispensable importance in diagnosis, staging, follow up and tmour characterization of patients with BC. Positron emission mammography (PEM) is high resolution breast imaging modality obtained with single dose of 18F- FDGtechnology which uses an organ specific instrument by compressing the breasts with two parallel photon detectors similar to MMG, with low spatial resolution of 2.4 mm. The merits of PEM are not only its high sensitivity, but also the ability to provide better spatial resolution and alternative imaging modality in women with dense breast tissue, difficult to interpret on MMG screening, and in women who may have various difficulties undergoing an MRI. Precise tumor localization is a mainstay of BCS usinf wire or radioactive seeds. One of the major clinical advances in breast surgery was the introduction of sentinel lymph node biopsy (SLNB) instead of conventional axillary node dissection. Among many available PET tracers, the most commonly used in patients with different stages of BC are 18F-FDG, 18F-FLT, 18F-FES, 18F-FDHT, 64Cu DOTA Trastuzumab (Bevacizumab), 68Ga- PSMA, 68Ga-RM2 (gastrin releasing peptide receptor), 18F-fluorooctreotide (SSTR) and 68Ga-TRAP(RGD)-3αv,3-integrin.

Molecular imaging of BC could be performed with various imaging modalities, such as magnetic resonance imaging (MRI) with contrast, PET, SPECT, optical imaging using fluorescent dye or contrast enhanced ultrasound. PET is highly sensitive and non invasive molecular imaging, that has become an indispensable tool in cancer research, clinical trials and routine practice. Using certain radiolabeled tracers, PET imaging is expected to visualize expression and activity of particular molecules, cells and biologic processes that influence behavior of tumors and their responsiveness to therapy Positron emission tomography (PET) has acquired a unique role in precision oncology.

Molecular imaging is very important in the diagnosis, staging, follow up and in guiding radiotherapy planning, as well as in characterizing lesions, predicting prognosis and therapy response in BC patients, particularly useful when quantitative indexes of tumor metabolism or function are used.

PET molecular imaging helps in evaluation of tumour heterogeneity, allowing a shift from one size- fits-all-approach to era of personalized medicine and precision oncology.

HEALTHCARE NEEDS MORE LEADERSHIP, NOT MORE MANAGEMENT

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"Management is doing things right. Leadership is doing the right things"
Peter Drucker

There are numerous publications that recognize leadership as a key element in the quality of healthcare. Leadership is one of the most important components that lead an organization to effective and successful results. Significant positive associations between leadership and high levels of patient satisfaction and reduction of adverse effects have been reported. In addition, several studies have highlighted the importance of leadership in the quality of healthcare delivery. Leadership is strongly associated with the implementation of effective governance that establishes a culture of safety for patients. In addition, the literature emphasizes that leadership is linked to patient care outcomes through greater nursing experience and increased staff engagement. Leadership has an indirect impact on reducing mortality by inspiring, retaining and maintaining experienced staff. Although there are many published studies that show the importance of leadership, few of these studies link the leadership to health quality indicators. Different groups of the health system emphasize personal and professional characteristics for effective leadership in healthcare: 1) Act with personal integrity - Be open, honest and trustworthy, 2) Manage personal and team results - Ability to evaluate successes and failures of themselves and team members and make adjustments when necessary , 3) Be resolute - use values and evidence to act decisively, especially in difficult situations, 4) Encourage improvement, development and innovation - create a climate for continuous improvement in quality and identify areas for growth, 5) Promoting Contribution - Creating an environment where others have the opportunity to share their thoughts and ideas without fear of criticism, 6) Selfless service - the ability to put the needs of others before their own. Demonstration of great concern for the common good, 7) Continued personal development - continuous professional development training and openness to feedback, 8) Resource management - knowledge of available resources and use of influence to

ensure that resources are used effectively and safely, 9) Applying knowledge and evidence - the ability to conduct research and evidence-based practice to optimize outcomes, 10) Have a strong knowledge base - be experts in a given field and demonstrate proficiency in basic knowledge.

Studies using primary quantitative data show a strong link between leadership and safety, effectiveness and equity in care. Leadership enhances the culture of nursing unit organization and structural empowerment. This affects nurses' organizational commitment and is associated with higher levels of job satisfaction, higher productivity, retention of nurses, patient safety, and an overall climate of safety and positive health outcomes. As confirmed by the literature, the safety climate is leadership-driven and strongly associated with improved process quality, high organizational culture, and positive patient outcomes. Therefore, the climate of safety is directly linked to improved outcomes such as patient safety and overall quality of care.

Leadership is recognized as a major factor in developing a quality organizational culture and effective representation in healthcare. Despite the importance of leadership in healthcare, public understanding of effective leadership in healthcare remains limited. In order to identify effective leadership in the healthcare model, it is appropriate to prepare a qualitative and quantitative analysis of the basic structure and importance of leadership competencies. Effective healthcare leadership is based on principles such as patient centering, teamwork, critical thinking, emotional intelligence and selfless service. Leaders not only improve basic clinical outcomes in patients, but also improve employee well-being by promoting workplace engagement and reducing burn-out in the workplace.

Leadership in Healthcare: Healthcare leadership is the ability to effectively and ethically influence others for the benefit of individual patients and populations.

Leadership of healthcare professionals is crucial to improve the quality and integration of care. Leadership is defined as the relationship between individuals and refers to the behavior of directing and coordinating the activities of a team or group of people towards a common goal. Effective leaders typically have the ability to inspire confidence, respect others, and convey loyalty through shared vision which leads to increased productivity, enhancing employee morale, and job satisfaction. The leader acts as the leader of change and sharing with the team which lead to improved performance. Leadership is relationship-oriented and includes support, development, and recognition of others' achievements. Individuals with different levels of responsibility must engage with leadership so that they actively participate in identifying changes in practices that may be needed to cope with the changing demands for quality healthcare. Leadership plays an essential role in improving quality measures in health and medical care. Bridging the gap on the impact of leadership in the healthcare system is a present and future goal for all societies. Leadership development has clearly reached a crossroad and the most important leaders' role can be described as providing ready deliveries of replacement leaders to sustain organizational progress in an ever-changing healthcare environment.

Numerous studies show that autonomous healthcare professionals who are directly responsible for their patients do not respond well to authoritarian leadership. This can be the basis for the widespread application of the shared leadership model within healthcare, as it promotes shared management, which will lead to continuous on-the-job training and the development of effective working relationships. Shared leadership is a system that enables the team to participate in the decision-making process. It empowers people to manage and grow as a team and effectively improve their work environment and job

satisfaction. Shared leadership ideally results in individual staff members adopting: 1) leadership behavior, 2) greater autonomy, 3) better patient care outcomes. Shared healthcare leadership requires a synergistic work environment in which many countries are encouraged to work together to implement effective practices and processes. Such cooperation promotes understanding of different cultures and facilitates integration and interdependence between multiple healthcare stakeholders. People are united by shared visions and values, and the result is synergistic work practices and achievement results that are greater than the sum of individual efforts.

Shared leadership is a continuous process that requires continuous development to meet the ever-changing healthcare challenges and requires a good working relationship between the leaders and the team. They can influence the practices of groups and individuals outside the core team and also improve the group's position within the organizational hierarchy by distributing leadership throughout the organization. Practicing shared leadership can have a significant impact on: 1) the working life of healthcare staff, 2) patient outcomes, and 3) the fate of an organization.

Building a sustainable care model is a nut off, and healthcare organizations don't have the right approach. Today, there is a drive to shift to value-based care, which is about achieving better health outcomes, improved patient experience, improved staff experience and lower care costs. Healthcare leaders face the serious challenge of achieving high quality healthcare for all who have access to the health care system and ultimately make it accessible to everyone, especially to future generations. It is now working with a much wider group of stakeholders in healthcare systems. This means that leaders must be able to speak the languages of different stakeholders. A much more flexible and challenging role. This cooperation approach requires different thinking. There must be an understanding of value propositions, health economics, market dynamics and digital ecosystems.

COLLAPSE OF ECOSYSTEM

Dr. Antypas Stylianos, SEEMF Secretary General, Athens, Greece

With the TOPIC (presentation) of mine I try to explain to our Colleagues and Participants with important information’s and indication that concerns for the collapses of Ecosystem.

The Ecosystem is an ecological unity that includes all the elements that are into this (environment of the planet). The sciences that study the Ecosystem are calling Ecology. When the Ecosystem referring to the SEA (oceans) are calling Open Sea Ecosystem. When the Ecosystem is near to the costs of the sea, are calling Costal Ecosystem. When are situated on land only for Agricultural Cultivations all calling Rural Ecosystem. Exceptional important are the Ecosystem of Waters (lakes, rivers) are calling Waters Place Ecosystem because effort to equip with food and protection for the big number of birds, mammals, fishes and others more organism. The Forest Ecosystem include the Fauna and Flores and into this Ecosystem dominate full of trees and forestall species as leaves, beans, fruit and intolerable elements as Air, Water, Land, Sun. One Ecosystem can be the entire Planet (earth) and also a Flowerpot with a plant where are living plants, insect microbe, microorganism Fungus bacteria. Also indicate the above referring for the collapses of Ecosystem by the responsible scientists as environmentalists,

geologist, biologist and a top physicians inform the Globally Human (community the Tremendous conditions that ought to confront a very dark future and shall be difficult to invert this catastrophic crises that exist on our days to our planet because after the industrial and biochemical developed start the planet to lose the capacity to revonet the environment and planet too. For all that Ecosystem, Biodiversity, the overiteaty of planet, Evolution Gas Aerius, the wild world whether Climate Change as are calculate by the responsible scientists by lately search indicate that after 50 years by the melting of glaciers, flouting, hurricane, the most of island of Philippines Indonesia, Malesia, North Pacific Ocean shall disappear and about 300 million habitants and also on Mexican Gulf ought to move to other places. Also mainly food that are fish and other species of the sea under these condition are impossible for the fisherman families to test more on these islands.

Also indicate the above revering disastrous conditions that became from inconsiderate Activities became the Globally Humanity. About that recently we are to confrod the most tragic situation the Wild for days burning of Amazon forest. As the information comes from Brazil and Press, TV Indicate that was given a promise to several companies to create new lands for Agricultural Cultivations and bucolic land for flock of cows, for this catastrophic innervation. Our planet lost the 20% of Oxygen and now isn't possible to keep the 30% of Carbon Dioxide. For that the world leader (EE, G20, G7) were necessary to receive yesterday responsible decision to stop at once all the catastrophic Activities and Innervations that became from Globally Human Community because are going to lose the planet (earth) as indicate the responsible scientist to keep for living the Humanity Community, FAUNA, Flora and other species of life that exist on our planet after and several years shall be impossible for living and to stay any more to planet Earth.

КРИТЕРИИ ОЦЕНКИ КАЧЕСТВА РАБОТЫ В БОЛЬНИЧНЫХ ОРГАНИЗАЦИЯХ

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Повышение качества оказания медицинских услуг – цель мониторинга качества и их оказания населению. Под качеством медицинской помощи (КМП) в настоящее время понимается совокупность характеристик, дающих оценку соответствию оказанной помощи к современному уровню медицинской науки и технологии и имеющимся потребностям пациента (населения).

Оценкой качества медицинской помощи можно назвать процесс определения соответствия оказанной медицинской помощи установленным на данный период стандартам, ожиданиям и потребностям отдельных пациентов и групп населения. В таком случае мониторингом качества оказания медицинских услуг является применение действенных методик (инструментов), мер и статистических методов для измерения и прогнозирования качества.

Среди множества возможных критериев КМП нами выделены следующие основные критерии, являющиеся детерминантами КМП:

– качество диагностической базы, (уровень доступности диагностической аппаратуры, уровень достаточности доступных (например, в пределах 10 км) диагностических средств, уровень возможностей телемедицинской диагностики);

– квалификация врачей и медицинских сестер (качество базового медицинского образования, доступность, периодичность и качество последипломного повышения квалификации, интенсивность работы с текущей научно-профессиональной литературой, регулярность участия в работе профессиональных сообществ, собственный опыт профессиональной работы, мотивация врачебной деятельности);

– мотивация врачей и других медработников, (формы признания успешной профессиональной деятельности на уровне трудового коллектива учреждения, формы признания успешной профессиональной деятельности на уровне региона (области), формы признания успешной профессиональной деятельности на уровне отрасли, формы признания успешной профессиональной деятельности на уровне государства);

К факторам материальной мотивации относятся уровень основной заработной платы и периодические материальные поощрения (премиальная система): качество информатизации работы врачей (профессиональные медицинские справочные системы, системы обеспечения медицинского документооборота, системы телемедицинского консультирования, интеллектуальные медицинские системы (медицинские экспертные системы), системы автоматической диагностики); обеспечение отделения лечебным оборудованием и лекарственными средствами, полнота кадрового обеспечения отделения стационара (обеспечение врачебными кадрами, кадрами средних медицинских работников, кадрами вспомогательного персонала).

Также выделены дополнительные критерии, являющиеся детерминантами КМП: микроклимат в коллективе отделения, частота неотдаленных рецидивов среди пролеченных пациентов, частота осложнений, смертность, частота жалоб пациентов, уровень удовлетворенности пациентов КМП.

Разработанные критерии оценки КМП являются необходимой основой для последующей разработки соответствующих показателей и высокоинформативных индикаторов КМП.

Индикаторы КМП необходимы для решения двух задач.

Первой задачей является ежегодная комплексная оценка КМП в отделении стационара для принятия управленческих решений.

Второй задачей является ежеквартальный мониторинг КМП в отделении для принятия оперативных решений коллективом и заведующим отделением.

Такая двухуровневая система контроля КМП позволит оптимизировать процессы управления КМП.

Индикаторы качества медицинской помощи рассчитываются как в целом по больнице, так и по каждому отделению. Выделяются несколько групп показателей, характеризующих: удовлетворение населения стационарной помощью, нагрузку медицинского персонала, использование коечного фонда,
качество и эффективность стационарной медицинской помощи, преемственность в работе амбулаторно-поликлинических и стационарных учреждений.

Период возврата 55 лет гендерных различий смертности ВС 60+ лет к уровню 1961 года, обусловлен снижением смертности этой ВС в первой четверти XXI столетия за счет равного доступа полов к специализированной и высокотехнологичной медицинской помощи, уровень развития которых в Республике Беларусь способствовал выходу из кризиса смертности.

ДИНАМИКА СТРУКТУРЫ СМЕРТНОСТИ НАСЕЛЕНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ В РАЗЕЗЕ ОСНОВНЫХ ВОЗРАСТНЫХ СТРАТ В 1959 – 2016 ГОДАХ

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В связи с тем, что снижение смертности, увеличение продолжительности жизни находятся в сфере демографических интересов государства и общества, исследование смертности населения, является актуальным направлением медико - демографических исследований. Изучение смертности, динамики ее возрастной структуры за продолжительный период времени позволяют установить влияние изменения факторов структуры населения на общий показатель смертности. Результаты исследования могут быть использованы для оценки эффективности программ по обеспечению демографической безопасности страны и разработки комплекса мероприятий по охране здоровья населения с учетом изменений возрастной структуры населения (старения) населения Республики Беларусь.

Цель исследования: провести многофакторный ретроспективный анализ и определить динамику структуры смертности населения Республики Беларусь в разрезе основных возрастных страт (0-14, 15-59, 60+) во 2-ой половине XX – 1-ой четверти XXI столетия.

Материалы и методы: Для проведения исследования использованы данные естественного движения населения Республики Беларусь за 1959 – 2016 годы. Источниками данных естественного движения населения явились формы государственной статистической отчетности и официальные данные расчетов по первичным данным органов статистического учета. Для анализа возрастной структуры общего показателя смертности (далее ОПС) использовался офисный пакет MS EXCEL 2010.

Результаты и обсуждение. Максимальный удельный вес (далее по тексту УВ) вклада 20,8% возрастной страты (далее по тексту ВС) 0-14 лет (далее 0-14) в структуре общего показателя смертности ОПС наблюдался в 1959 году. За 52 года (1959 – 2011) УВ вклада этой ВС в структуре ОПС уменьшился в 42 раза (на 20,3 процентных пункта (далее по тексту п.п.)) и к 2011 году достиг минимального значения 0,5%. В 2016 году УВ вклада ВС 0-14 в структуре ОПС составил 0,5% и соответствовал УВ вклада этой ВС в 2011 – 2012 и 2015 – 2016 годах. В 1959 году

УВ ВС 15-59 лет (далее 15-59) в структуре ОПС составлял 25%, после чего до 1982 года возрастал. За 23 года (1959 – 1982) УВ этой ВС в структуре ОПС увеличился в 1,1 раза (на 3.7 п.п.) и в 1982 году достиг максимального значения 28,7%. С 1982 года УВ ВС 15-59 в структуре ОПС снижался и за 34 года (1982 – 2016) уменьшился в 1,4 раза (на 8.7 п.п.), а 2016 году имел минимальное значение 20%. Минимальный УВ вклада 54,2% ВС 60+ в структуре ОПС наблюдался в 1959 году, в последующем возрастал и к 2016 достиг максимального значения 79,5%. За 57 лет (1959 – 2016) УВ вклада этой ВС в структуре ОПС увеличился в 1,5 раза (на 25,3 п.п.)

В хронологических рамках исследования сохранялось возрастание УВ вклада ВС в структуре ОПС по мере увеличения возрастного ценза страты. УВ основных ВС в структуре ОПС за 1959 – 2016 годы претерпел изменения: ВС 0-14 с 20,8% до 0,5%, ВС 15-59 с 25% до 20%, ВС 60+ с 54,2% до 79,5%. Динамика УВ вкладов основных ВС в структуре ОПС на протяжении периода исследования была различной: за 57 лет (1959 – 2016) УВ вклада ВС 0-14 уменьшился в 42 раза (на 20,3 п.п.), ВС 60+ увеличивался в 1,5 раза (на 25,3 п.п.). УВ вклада ВС 15-59 на фоне смены динамики: рост (1959 – 1982) – снижение (1982 – 2016), в структуре ГПС за период исследования снизился в 1,4 раза (на 8.7 п.п.).

Выводы: В 1959 – 2016 годах произошло «старение» возрастной структуры общего показателя смертности населения Республики Беларусь, обусловленное увеличением УВ вклада ВС 60+ и снижением УВ вклада ВС 0-14. К 2016 году наиболее «постарела» структура ГПС сельского и женского населения, УВ вклада ВС 60+ в структуре ОПС которых составил 82,4% и 89%, а в структуре ОПС сельских женщин 92,3%. Снижение УВ вклада ВС в структуре ОПС началось в 50-х годах XX столетия и к 2015 – 2016 году УВ вклада ВС 0-14 в структуре ОПС достиг значения менее 0,5%. Тенденция снижения УВ вклада ВС 60+ сформировалась в 50-е годы прошлого столетия сохранилась к 2016 году, в котором УВ вклада в структуре ОПС достиг 80%.

ROLE OF MEDICAL ASSOCIATION IN PROMOTE OF EDUCATIONAL COURSES: „WOUND HEALING CURRICULUM FOR PHYSICIANS „

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Introduction: Chronic wounds are defined as wounds were all kinds of treatment modalities do not lead healing within 6 weeks. Patient is in the focus, who suffer when they have a wound. The situation in Europe is unsatisfactory with national states only performing almost no wound healing including totally different national standards. In detail, studies have shown that only 15 to 40% of the wound patients receive adequate, modern therapy. It goes saying that such a highly specific way to manage chronic wounds needs a lot of education . The European Association of Fellows in Wound Healing (EAFWH) as a non-profit international and interdisciplinary association for physicians and residents in medicine, who are active in the medical field of „management of acute and chronic wounds “ Education including all the steps needed to cure wounds in the referral rout of Chronic wounds, starting from the right diagnosis down to successful treatmentapproaches.

Aim: The aim of Association for Wound Management in Bosnia and Herzegovina (AWMinB&H) and Balkan Wound Managemnt Association (BALWMA) is to make international colaboration with SEEMF and EAFWH in promote and organisation of „ Wound Healing Curiculum for physicians“ and residents in medicine, who are active in the medical field of „management of acute and chronic wounds" which offers MDs in all European countries the education to become *Fellow in Wound Healing* according to the European training regulations of the UEMS Thematic Federation Wound Healing.

Method: In collaboration between Southeast European Medical Forum (SEEMF) with Association for Wound Managemnt in Bosnia and Herzegovina (AWMinB&H) and Balkan Wound Management Association(BALWMA) like national NGO association, to establish contacts and partnership with European Association of Fellows in Wound Healing (EAFWH) in organisation regular series of educational programmes which support and develop the medical field of Management of Acute and Chronic Wounds: **Training of the common EU Curriculum „Wound Healing for Physicians“ in all EU countries.** European Accreditation Council for Continuous Medical Education (EACCME) .The synchronisation of pre and post graduate education,the establishment of central wound healing centers with multidisciplinary team of specialists , practitioners , dermatologists, different kind of surgeons (general surgeons, plastic surgeons and vascular surgeons, phlebologists, angiologists , diabetologists and gerontologists) typically handle chronic wounds should work together in Europe. The graduation title awarded by the Society is "European Fellow of Wound Healing

Conclusion: International collaboration promote continuous medical education of medical field of Management of Acute and Chronic Wounds, European Accreditation Council for Continuous Medical Education (EACCME) with implements aims of 21st Century Medicine: Synthetised Model for teaching and practice. Chronic care model. Prevention. Life Style modification. Integrative medicine. " Patient Centered Care" „Global Health Service".

ETHICAL CHALLENGES OF DOCTORS OF OUR TIME

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For doctors and healthcare professionals, morality is an everyday matter, throughout history, to this day, regardless of the political, economic, social and other characteristics of the society in which the doctor lives and works. The morality of physicians comes mainly from themselves, it is a sound and realistic assumption that they chose medicine for their honesty and humane views of the world, so they developed and strengthened those traits during their studies and during their practice. Of all the professions in this civilization of ours, morality is most widely respected by physicians, and by far the most frequently mentioned is the Hippocratic Oath. The morality from which ethics originates is in medicine the subsystem of the moral convictions of society, and these are again the subsystem of global ethics. I must mention that the patient and the physician are more in agreement about what is immoral and less about what is moral behavior. The ethics of

medical practitioners can be seen as both philosophy and science, but it does not help much in some simple questions and answers.

ZHORDANIA CLINIC TODAY

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Human Reproduction Scientific Research Institute, founded in 1958 by Professor Ioseb Zhordania, is the first institution in Transcaucasia, which started working in the field of reproductive health.

All modern methods of diagnosis and treatment were systematically introduced into the Institute at all times of its functioning. It was the National Center of Reproductology in Georgia.

In 2016, Zhordania Institute was merged with the VIVO Medical Group. After joining the group, it was completely renovated, reconstructed and began to function with new employees and embryologists.

Zhordania's clinic maintains its main direction of human reproduction and women care even after joining the group.

The synthesis of medical diagnostic study, many years of experience and modern methods established in this clinic, guarantee a safer and more effective treatment.
Here are implemented safe, effective and successful methods of infertility treatment, with modern methods and participation of a high-quality team of embryologist and physicians and assisted reproductive technologies.

As mentioned above, reproductive health care remains main field of Zhordania Clinic.

In cooperation with the different international reproductive centers and using international standards, the clinic provides diagnosis and treatment of infertility problems. The Valencian Infertility Institute (IVI) was founded in 1990 as the first medical institute in Spain purely dedicated to assisted reproduction. Today it is a world leader both in the scientific community and for all couples unable to have children without assistance.

IVI is the largest Assisted Reproduction group in the world with more than 70 clinics in 13 countries.

At IVI they have been offering the best techniques in assisted reproduction for more than 27 years.

According to company’s data, IVI is one of the European centers with the best pregnancy rates: 9 out of 10 couples achieve their objective.

EXPERIMENTAL INVESTIGATION OF A MINERAL WATER OF THE VILLAGE KIKETI

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Background: With experiment we were researching the influence of chloride-hydrocarbon, calcium magnesiumof mineral water onrats stomach, intestines, liver and kidney.

Methods: These experiments were held on 15 male albinorats; 10 tentative white rats have been drinking water during 30 days and approximately 20-25 milliliters of water per day.The rest of 5 control group simultaneously drank same amount of tap water.

Results: All rats were simultaneously withdrawn fromthe experiment. Stomach, intestinal, liver and kidney were investigated. The specimens were stained with hematoxylin and eosin. Entire microstructure of stomach, intestinal, liver and kidneys Was intact. The liver lobules are formed of a polygonal mass of hepatocytes with Portal spaces at the periphery and a vein, called the central or centrolobular vein, in the center. The fundal gastric pits contained the large acidophilic parietal cells and chief cells, secreting zymogen granules, showing the moderate activation of gastric secretory function. The cuboidal epithelial cells of convoluted proximal tubules were flattened.

Conclusion: The results of the investigation (experiments) have shown that 30 days ora- lreception of water does not cause any pathologic changesin microstructure or macrostructure of rats stomach, intestines, liver or kidney.

The results give us the full right and opportunity to assume that the mineral water does not have any negative effects on inner organs and neitherbehavior of animals.

The mineral water from Kiketi can be freely used in practice and in some cases it is interesting in the aspects of prevention and medical rehabilitation.

Key words: Mineral Water, experiment, morphology.

World Medical Journal

WMA

10 Questions for SEEMF's President, prof. Andrey Kehayov, MD

Andrey Kehayov

Apinis: *In 2019 the Southeast European Medical Forum (SEEMF) organizes its Tenth Anniversary International Medical Congress. SEEMF's congresses take place in different Eastern European countries every year. This year, the Congress will take place in Sofia, Bulgaria. What are the main goals of the events? What are the main topics of this year's Congress?*

Kehayov: The main objectives of SEEMF are to promote partnership between the medical associations of the member countries; to discuss common problems in the healthcare systems in the southeastern part of the European continent; to exchange experience in and develop common approaches towards all fields and activities of the medical organizations; to promote continuous medical education; to assist its members in improving their medical and managerial qualifications and skills; to establish contacts and partnership with other international medical organizations. The scientific program of the Tenth Anniversary Medical Congress of SEEMF is comprised of variety of topics and will host the attendance of leading lecturers, prominent representatives of medical academia with recognized academic and practical competence.

- *Aging of the population;*
- *Cardiovascular diseases and cardiovascular surgery. Transplantations;*
- *Gastroenterology. Transplantations;*
- *Neurology, neurosurgery and psychiatry;*
- *Nephrology and urology. Transplantations;*
- *Sexual medicine and reproductive health;*
- *Orthopedics and traumatology. Calamity medicine;*
- *Pharmacotherapy;*
- *VARIA.*

We hope that during the round table discussion on the topic "Challenges in the Healthcare Systems- 21st Century. Values and Principles" participants will have the chance to share their views on and aspires towards the present and the future of the global healthcare. The Congress has already received the support of the Bulgarian authorities and the World Medical Association. The President of WMA- Dr. Leonid Eidelman has already confirmed his participation. As usual, the Congress will apply for European Accreditation Council for Continuous Medical Education(EACCME) accreditation. The social program of the event will be comprised of several tours- one around Sofia- the capital of Bulgaria; to the Rila Monastery- a historic Christian monument and a visit to the Cultural Capital of Europe for 2019 – Plovdiv, the city with a thousand year old history. I would like to use the opportunity to appeal to all the members of the WMA and the readers of the World Medicine Journal and cordially invite all of you to attend the 10th Anniversary International Medical Congress of the SEEMF. All information about the event – registration and hotel accommodation is available on the website of the organization: www.seemfcongress.com.

Apinis: *At present, 18 countries (20 medical organizations) are members of SEEMF's society – Albania, Azerbaijan, Belarus, Bosnia and Herzegovina, the Medical Associations of Bosnia and Herzegovina and Republika Srpska, Bulgaria, the Czech Republic, Georgia, Greece, Kazakhstan, Russia, Northern Macedonia and Montenegro, Slovenia, Ukraine, Uzbekistan, Serbia, Moldova, Croatia, the European Medical Student Organization. Does SEEMF continue to extend? Do you think that doctors from other countries will join your organization?*

Kehayov: Southeast European Medical Forum (SEEMF) was found in 2005 by the medical organizations of 4 Balkan countries – Albania, Bulgaria, Greece and the Republic of Northern Macedonia as an association of doctors' organizations from Southeastern Europe- neighbouring countries with similar problems. Today, SEEMF is one of the rapidly developing organizations that unites 20 medical associations. Last year, during the Board Meeting held amidst the Ninth International Medical Congress of SEEMF, we approved the applications for membership from Russia, Croatia and Montenegro- our newest member countries. As you can see every year, the membership base of the organization is enriched with new medical experience in the face of its new members. From 4 founders of the organization, we became 20. SEEMF is expanding naturally as a result of its mission and causes, which are also part of the causes and missions of the world medical organizations.

Apinis: *Throughout the years, SEEMF's Congresses have been held in countries with politically unstable situations, an example of which is the Congress in Odessa, Ukraine, at a time when the military conflict in East Ukraine*

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took place. Does SEEMF thus show a political standing?

Kehayov: SEEMF is an independent organization of physicians and is not under any political ward. Our congresses are interdisciplinary events. We are not only interested in scientific and practical achievements in medicine, but also in the organizational structures of the healthcare systems of our members. We outline the real labour market; the problems of financial and human resources and aim to provide guidance for rational solutions. Before the institutions that are involved in shaping the health policies and before the society, we form our unequivocal and prominent physicians' position in order to find the adequate balance to change the system. These are the real challenges of the time we live in. Through brainstorming together, we raise our experts' and specialists' platforms and display them before the various national and international institutions.

Apinis: *The Board meetings of SEEMF are often held on The Island of Kos, Greece, where Hippocrates was born. Does this historical reference serve the philosophy of your organization?*

Kehayov: In accordance with SEEMF's Statute, SEEMF organizes at least two board meetings annually. The board consists of 30 individuals, most of whom are heads of the medical associations of the member states and prominent representatives of the medical and academic society. The Board meetings are held in different countries, and this year for a second time we have decided to hold our meeting in Kos, Greece – The homeland of the "Father" of modern medicine – Hippocrates. The mission of SEEMF, as an organization of physicians from different countries, is to transform moral-ethical behaviour and norms that distinguish the medical profession from all other professions as a leading one. Parallel to the Board meeting, we have organized an event with the title "International Conference on Medical Ethics and Moral. Oath of Hippocrates – Symbol of Medicine". Well-known lecturers will present various moral and ethical models, practices and standards in medicine.

Apinis: *Most of the countries, represented in SEEMF, are former post-soviet or post-socialist states. Is it not the debate in your Congress on the transition from socialistic medicine to European medicine?*

Kehayov: The discussions that participants in SEEMF's congresses hold are mainly related to the socially significant diseases and their prevention. However, the primary mission of the doctors and the medical specialists is to take care of the health of their patients and it has nothing in common with the country we come from or live in. SEEMF's congresses are multidisciplinary universities and one of our main goals is to improve participants' knowledge and professional qualifications with the latest theoretical and practical achievements of the global medicine. Implementing the established European and global medical standards and practices with a focus on what quality medical care really is, we endeavour towards the improvement of the healthcare systems in the countries of the region.

Apinis: *A regular topic during SEEMF's Congresses is the one about the migration of doctors and medical professionals. Doctors tend to go work in richer European countries and for better wages.*

Kehayov: The Migration of the medical professionals in the European region has been observed since the 1940s. After the accession of Bulgaria to the EU, the most active amongst the "migrants" became the medical specialists with qualifications and diplomas that are recognised by member states of the EU. We witness a trend of general migration – Bulgarian doctors migrate, but specialists from other countries come to Bulgaria. This process is two-sided.

Apinis: *Medical tourism plays an increasingly important role in EasternEurope. To what extent are Bulgaria and the Balkan countries updating medical tourism?*

Kehayov: Due to its enormous natural resources Bulgaria has posed a serious request to become one of the biggest health centers in Europe. Using its endowments and intellectual resources, as well as the hundreds of mineral water springs, healing climate, organic farming and services promoting a healthy lifestyle; cultural, wine, seaside and mountain tourism Bulgaria is turning into a competitive destination for a quality tourism. Bulgaria ranks first in Europe according to the availability and diversity of mineral water and spa resorts. The Ministry of Tourism in Bulgaria encourages development of medical and health tourism and provides legislative changes to adapt it in accordance with the European standards and European market requirements through implementation of innovative practices and quality improving strategies.

Apinis: *SEEMF is a WMA associate member. How would you describe the collaboration with WMA?*

Kehayov: The World Medical Association is a constant supporter of the activities and the missions of SEEMF. SEEMF shares strongly WMA's goals, values and standards. As President of SEEMF, I have the honour and pleasure to participate in the annual meetings of WMA- the General Assemblies and Council Sessions. Many of the declarations and suggestions proposed by our organization on different issues, an example of which are the ones on climate change and reduction of emissions in the Mediterranean Sea, were accepted by the WMA and noted by the World Medical Journal. What greater recognition than the participation of several WMA's Presidents in the Congresses of SEEMF? I would like to use the opportunity to thank Dr. Otmar Kloiber – WMA

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Secretary General for his incredible moral support and acknowledgment of SEEMF throughout all the years.

Apinis: *The next WMA General Assembly will take place in one of SEEMF's member countries-Georgia. You organised one of SEEMF's congresses in Georgia with the aim of investigating the extent to which Georgia is prepared for very large medical congresses and events. What is your impression of the Georgian hospitality?*

Kehayov: In 2016, in cooperation with the Georgian Medical Association we conducted the Seventh International Medical Congress of SEEMF in Batumi, Georgia. Georgia acquitted our expectations! The President of the Georgian Medical Association – Prof. Gia Lobzhanidze, professor in surgery at the University of Tbilisi – is also one of the Vice President of SEEMF. Thanks to his exceptional personal and organizational potential and with the active support of the members of the Georgian Medical Association, SEEMF's Congress in Georgia was a significant event with participants from 20 countries. Georgia proved to Europe and the World its scientific, medical potential and incredible skills in conducting large-scale international events. The generous Georgian hospitality combined with the mixture of ancient cultural monuments and wonderful nature turned the Congress days into an impressive collection of shared practices, thoughts and friendship.

Apinis: *One of the subjects you teach as a professor in a medical university in Bulgaria is ethics. What are the challenges of medical ethics in Bulgaria?*

Kehayov: I am an Associated Professor in the Medical University of Sofia, faculty of Public health,"Health policy and management Department". As a former President of the Bulgarian Medical Association (2009-2012), and as a member of the ethical Commission and university professor, I worked and continue to work in the field of medical ethics and moral. If we look at the vision of ethics in public health, in our country we witness the same problems that effect the ethical values in most countries, namely: with reference to availability, fairness, timeliness and quality of healthcare. If we take a look in particular at the challenges facing medical and clinical ethics, I believe that the informed consent is essential. The form, which the patients sign expresses their "consent" only. In practice, the process of communication that leads to an informed consent, is missing, or is too limited. The Autonomous model predicts that the patient receives full and accessible information about his disease, diagnostic and therapeutic activities, as well as the prognosis of his illness. This is not necessarily the case in every situation, but is possible. However, patients are increasingly informed and empowered, seeking their rights, and the physicians' responsibility is to recognize the necessity of the informed consent, which is a legitimate mode to protect not only the patient, but the physician as well. Otherwise, we witness tension and growing distrust towards the profession. The problems of patients with disabilities who need additional care and more attention have also become widely known. Of course, the issues of confidentiality are also relevant; assisted reproduction- especially against the background of the demographic crisis in which our country currently is; donation and transplantation; clinical trials and medical tourism; ethical issues related to death, including assisted suicide.

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