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**36<sup>th</sup> International Medical Scientific Congress  
for Medical students and young Doctors**



**IMSC Ohrid**

**BOOK OF ABSTRACTS  
2013**



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**COVER DESIGN:**

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Macedonian Medical Students' Association (MMSA), Skopje  
Scientific Club "Acad. Dr. Dimitar Arsov"  
Circulation: 300

CIP - Каталогизација во публикација

Национална и универзитетска библиотека "Св. Климент Охридски", Скопје

616(062) (048.3)

INTERNATIONAL medical scientific congress for medical students and young doctors (36 ; 2013 ; Ohrid)

Book of abstracts: 2013 / 36th International medical scientific congress for medical students and young doctors, May 11th-14th, 2013, Ohrid, Republic of Macedonia;

[editors in chief Mirko Spiroski, Haris Babacic]. - Skopje: Faculty of medicine, 2013. - 104 стр. ; 30 см

ISBN 978-608-4596-45-5

а) Медицина - Собири - Апстракти

COBISS.MK-ID 93858570

# CONTENT:

Welcoming notes and preface .....	04
Honorary and scientific board .....	08
Organizing committee .....	11
Lectures .....	14
Workshops .....	17
Programme .....	26
Plenary session I .....	29
Plenary session II .....	46
Plenary session III .....	63
Plenary session IV .....	78
Friends and partners .....	92
Sponsors .....	94
Post-congress tour .....	97
About .....	99
Index of authors .....	102

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# **WELCOMING NOTES AND PREFACE:**



## DEAN'S WELCOMING NOTE:

Dear students, respected guests, dear colleagues, ladies and gentlemen,

It is my great honour and pleasure as Dean of the Faculty of medicine at the University "Ss. Cyril and Methodius" on behalf of the all employees to extend my greetings to the participants of the 36th Congress of medical students and young doctors that traditionally takes place at the coast of the wonderful Ohrid lake.

The Faculty of medicine at the University "Ss. Cyril and Methodius" has a long history, from 1947 when on 17<sup>th</sup> of March the decision was announced for the beginning of the studies of medicine in Socialist Republic of Macedonia. The first lecture was on 3<sup>rd</sup> of November 1947. We are aware of the 65 years old tradition of the oldest, largest, and owing to our mutual permanent endeavour, the best faculty of medicine in our country. Since its foundation more than 10000 medical doctors had obtained their degree - doctor of medicine, more than 400 got master degree in medicine and public health, and more than 500 acquired PhD degree at our Faculty. Nowadays with the staff of almost 500 professors and assistants provides education of more than 2000 students in general medicine, professional studies in nursery, radiographers, physiotherapists and speech therapists. The same staff had been engaged until 2005 in master studies in general medicine and now in master in public health, as well since 2011 in doctoral studies in basic, clinical, molecular medicine and public health.

Very important segment of educational activity are specializations in more of 30 medical disciplines according to the new trends and current development of the contemporary medicine. As an integrative part of our Faculty, since 2011, Centre for family medicine started to organize vocational training and continuous medical education for family doctors, that allows implementation of the role of the family doctors in our health system.

The Centre for continuous medical education has been founded to allow continuous education for young doctors and doctors specialized in different disciplines.

I would like to point out that it is a great pleasure to be a member of this big medical family, to belong to the most human and respectful profession, at the same time it is a great challenge to follow the permanent development and achievements in contemporary medicine. If you would like to be good students, and especially to be good doctors, you have to work very hard. On this congress there will be many presentations, few workshops and seminars will be organized and all these activities will be of great importance for your future professional development and for most of you I hope in the scientific research career.

At the end I would like to wish you successful work, to express my gratitude to the invited speakers and all the guests wishing them pleasant stay in our beautiful country, and to all of you wonderful event that will stay in good memories for the years ahead.

Regards,

**Prof. Nikola Jankulovski, MD, PhD**  
Dean of the Faculty of medicine in Skopje,  
University "Ss. Cyril and Methodius"





**TUTOR'S WELCOMING NOTE:**

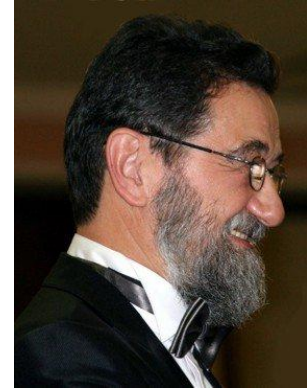
**Dear Colleagues,**

On behalf of the Organizing Committee of the Macedonian Medical Students' Association (MMSA), Skopje, Republic of Macedonia we are pleased to welcome you to the 36th International Medical Scientific Congress for Medical students and young Doctors which is held in Ohrid, Republic of Macedonia, May 11-14, 2013.

It represents the annual meeting and follows the most successful meetings held in Ohrid in the previous 35 years. The congress will provide an excellent opportunity for the medical students and young doctors working in the Republic of Macedonia and worldwide to present their work and to build collaborative relationships.

Modern medicine is permanently improving and new approaches are added daily. Exchange of the views and ideas during the congress will be of utmost benefit to the students. Participation in the workshops, organized by experienced doctors, will add knowledge to the students.

But do not forget that the "Congress starts when the lectures are finished" and use your time to broaden your friendship and enjoy in the beauties of the city of Ohrid and your social life.



**Best regards,**

**Prof. Mirko Spiroski, MD, PhD**  
Tutor of the Scientific Club "Acad. Dr. Dimitar Arsov"



# 36<sup>th</sup> International Medical Scientific Congress in Ohrid, for medical students and young doctors



## PREFACE:

**Dear professors, guests and colleagues,**

It is our pleasure to welcome you at the 36<sup>th</sup> International Medical Scientific Congress organized by the Macedonian Medical Students Association, member of the International Federation of Medical Students Associations, here in our beautiful Ohrid.

After 36 years of this event being organized, "The International Medical Scientific Congress" contributed towards improving the scientific experience of the medical students through their hard work on their projects and exchange of experience with each other. This unique opportunity has been taken by many students from all over the world and especially by the domestic ones by presenting their work in research.

This year like the last 35 years we have prepared for you an interesting program that will be filled with interesting lectures and interesting workshops that aim to complement your medical knowledge.

Apart from this educational and scientific section, the Congress will offer many mutual companionships, interesting experiences out of formality, which will remain as your most vivid and pleasant memories.

Of course, we want to mention and also to express our gratitude to all our sponsors, professors and the management of our Medical Faculty who had a huge role in the process of organizing this congress. Without their help we could not have managed to arrange all this to the fullest. Their moral and material support was crucial to us. The entire Organizing Committee and membership of our Association is thankful for that.

**We wish to all of you a successful work and rewarding Congress!**

On behalf of the Organizing Committee and Macedonian Medical Student's Association

**Kindest Regards,**

**Nagim Fejzuloski**

President of the Organizing Committee



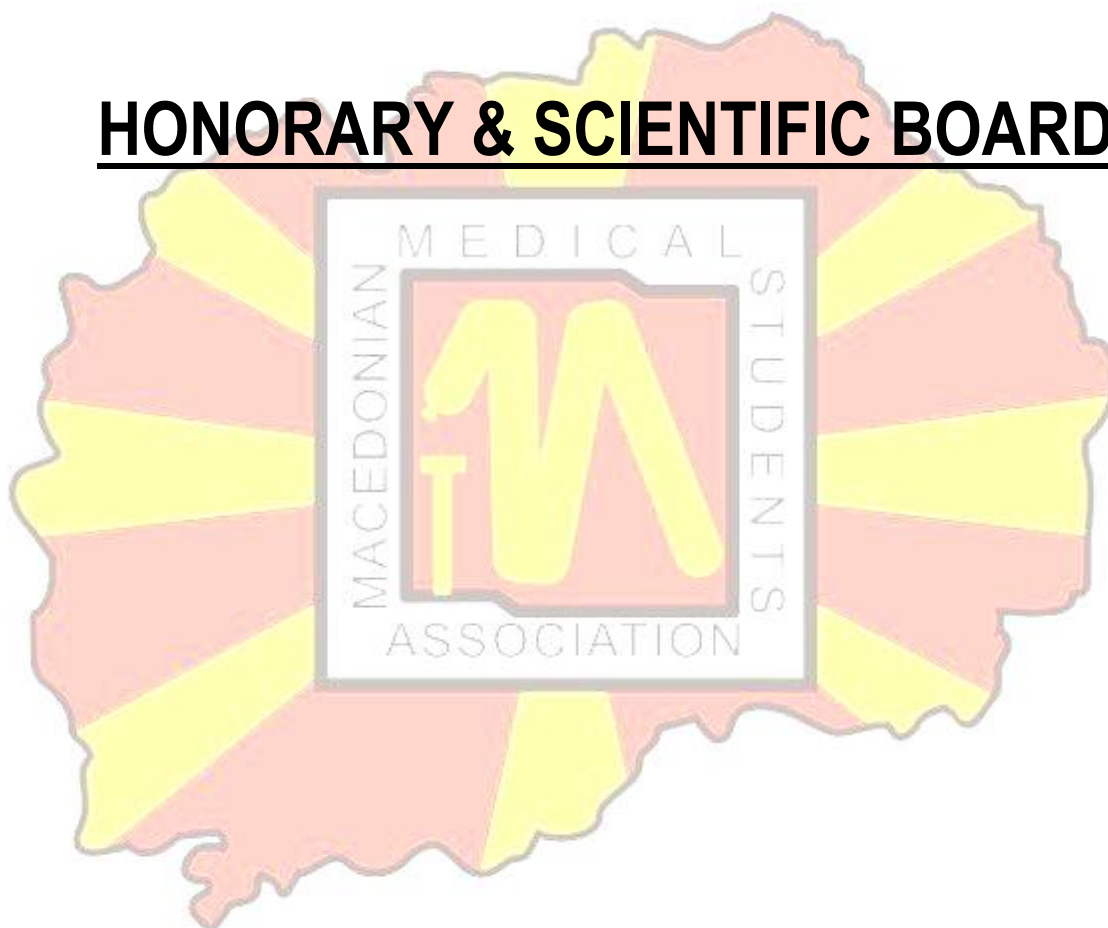
**Stefan Vasilevski**

President of the Macedonian  
Medical Students' Association



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## **36<sup>th</sup> IMSC Ohrid 2013**





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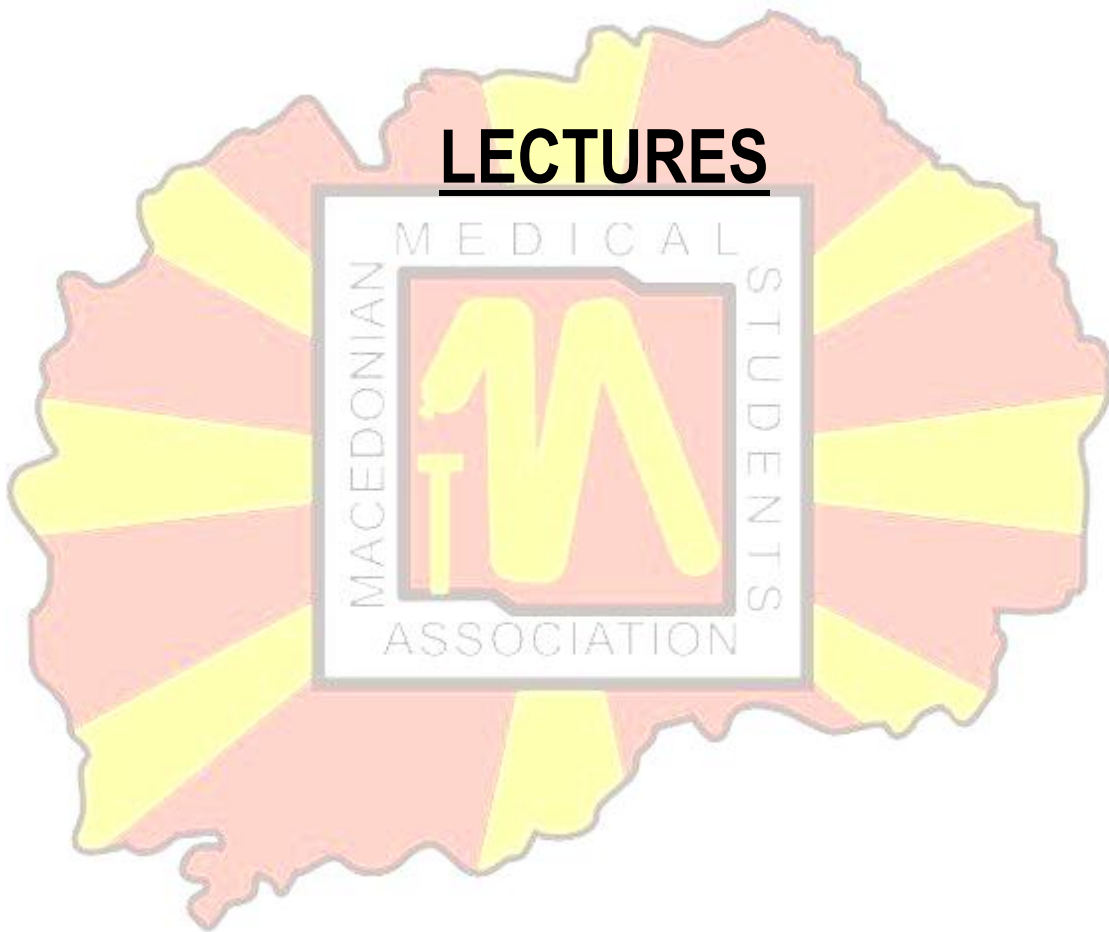
**Vesela Dimeska, Mishela Nikolovska**

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# LECTURES



LECTURE TITLE: **PERORAL ENDOSCOPIC MYOTOMY (POEM)  
FOR OESOPHAGEAL ACHALASIA**

*(Teleconference - Saturday 11.05, 19:00-20:00)*

**LECTURER: Ivo Boskoski, MD, PhD**  
Specialist in Gastroenterology, Digestive Endoscopy;  
Endoscopist on the Digestive Endoscopy Unit, A. Gemelli Hospital,  
Catholic University "Sacred Heart" of Rome, Italy

**Dr. Ivo Boskoski** is born in Tetovo, Republic of Macedonia, in 1981. Finished primary school and high school in his birth city with excellent achievements.

In 1999 he began his studies in medicine at the Faculty of medicine in Skopje, University "Sts. Cyril and Methodius" and was among the best students in his class. In 2002 he transferred to the School of Medicine and Surgery at the University of Perugia, Italy. He finished his studies in medicine in 2005 and the same year began his residency in Gastroenterology and Digestive Endoscopy at the University Campus Bio Medico of Rome which he finished in 2009.

From January 2007 to November 2009 he was a Digestive Endoscopy fellow and assistant at the European Endoscopy Training Centre, Catholic University of Rome, under the mentorship of Prof. G. Costamagna. Since November 2009 he works as an Endoscopist at the Digestive Endoscopy Unit, A. Gemelli Hospital, Catholic University of Rome, which is runned by Prof. G. Costamagna.

From December 2009 to October 2012 he did a PhD in experimental surgery and bariatric procedures (endotherapy of obesity) on the Department of Surgical Sciences, Gemelli Hospital, Catholic University of Rome, under the mentorship of Prof. G.B. Doglietto.

In his successful carrier as a clinician and scientist, Dr. Boskoski published numerous papers in gastroenterology and endoscopy.

Dr. Ivo Boskoski is one of the best Macedonian doctors and our ambassador of science abroad.

**LECTURE DESCRIPTION:** Achalasia is an oesophageal motility disorder of unknown cause, characterized by aperistalsis of the oesophageal body and impaired lower oesophageal sphincter relaxation. Patients present at all ages, primarily with dysphagia for solids and liquids, and regurgitation. There is no treatment able to restore muscular activity to the denervated oesophagus in achalasia. Treatment methods for achalasia include pharmacologic agents, endoscopic botulinum toxin injection and balloon dilation, and surgery. Drug therapy with calcium channel blockers has little effect, but can provide palliation while the patient is awaiting an operative procedure or if there are clinically significant concomitant comorbidities precluding a more aggressive approach. As a result, the vast majority of achalasia patients will require some kind of intervention to improve their symptoms. To date, endoscopic balloon dilation and the laparoscopic Heller–Dor procedure (cardiomyotomy plus anterior emifundoplication) are considered the mainstay of treatment with similar results in the short-term. The recent developments in Natural Orifices Transluminal Endoscopic Surgery (NOTES) and the continuing improvement of devices for submucosal dissection revived the interest towards the possibility of an endoluminal approach to achalasia. Peroral endoscopic myotomy (POEM) has been described in the animal model by Pasricha et al. in 2007. A year later, Inoue et al. started the application of the technique to human subjects with achalasia, showing both its feasibility and safety in the clinical setting.



LECTURE TITLE: **CADAVER TRANSPLANTATION IN THE BALKANS: MISSION POSSIBLE?**

(Monday, 13.05, 15:00-16:00)

**LECTURER: Vladimir Chadikovski, MD**

Specialist in Paediatric Surgery;  
Paediatric Surgeon at the Clinic of Paediatric Surgery  
University "Sts. Cyril and Methodius" of Skopje, Skopje,  
Macedonia



**Dr. Vladimir Chadikovski** is born in Skopje, Republic of Macedonia, in 1973. Finished primary school and medical high school in his birth city with excellent achievements.

In 1991 he began his studies in medicine at the Faculty of medicine in Skopje, University "Sts. Cyril and Methodius", which he finished in 1997 as one of the top of his class. He began

working as a general practitioner until 2000, when he began his specialization in Paediatric Surgery at the University "Sts. Cyril and Methodius", which he successfully finished in 2004. During his specialization Dr. Chadikovski stayed at university clinics for paediatric surgery in Vienna, Austria (2001); Belgrade, Serbia (2002); Los Angeles - UCLA, USA (2004); In his fruitful carrier he was involved in many projects on transplantation, worldwide - in Belgium, the United States, Germany, Turkey and especially Macedonia.

Dr. Chadikovski is the Founder and President of the Board of the National Transplant Foundation (NTF) in Macedonia and was involved in numerous initiatives in promoting the transplantation of organs in Macedonia. He is one of Macedonia's best doctors and promotor of progress in the country.

**LECTURE DESCRIPTION:** Donation of organs is on a very low level and due to its specific nature is a very sensitive topic, especially in the post – conflict and multinational country like Republic of Macedonia.

The NGO National Transplant Foundation has conducted a study in order to gain understanding about factors that drive awareness, attitudes towards donation of organs and willingness to participate...

The results revealed that majority of population in Macedonia is familiar with the term transplantation, but there is a very low awareness that a specific law for organ donation exists. Segmentation analysis identified several groups of responders: apostles (23%), mercenaries (11%), escapists (26%), neutral (13%) and hostages (28%). More precisely, apostles are people who perceive transplantation or donations of organ as human act and who already participate in some humanitarian activity like blood donation. The participants were divided upon their opinion whether they would donate their organs after death. The reasons for this are found in negative attitude towards donation and low level of trust in institutions.

The survey clearly indicated that there is a need for informing the population about the law and the process of donation of organs in Macedonia. Inclusion of certain benefits like health or social insurance will stimulate the process of donation of organs. Another important output is that mercenaries and escapists are groups which should be targeted, while apostles and neutral could be used as promoters of the idea.

This lecture will give an overview of the transplantation in Macedonia and the Balkans.



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# **WORKSHOPS**





**A.) WORKSHOP ON MEDICAL FIRST AID**

*Day: Sunday, 12.05.2013*

*Time: 16:30 - 19:30*

Workshop Title: **CARDIOPULMONARY RESUSCITATION (CPR)**

**Workshop Organiser: Special hospital for surgical diseases “Filip II”**

**Workshop Lecturer: Emil Stoicovski, MD; Marko Gjorgon, MD; Vesna Naumovska, nurse;**

**Workshop Purpose:** The aim of this workshop is to demonstrate, but more important to enable the participants to react in emergency situations that require cardiopulmonary resuscitation.

**Workshop Description:** Emergency medicine is a field that everyone should know well enough, to have a clear conscience and equally important good results with the patients. This workshop will start with an introduction to CPR – Cardio Pulmonary Resuscitation; how it works and why it is so important. A brief discussion will be included, on the physiology of the heart and lungs and understanding the difference between Clinical and Biological Death. A theoretical lecture about different situations will be given such as: cardiovascular diseases, airway obstruction in adults and children, conscious/unconscious. In the end all the participants will try CPR practically on a model device.



**B.) WORKSHOP ON MEDICAL FIRST AID**

*Day: Sunday, 12.05.2013*

*Time: 16:30 - 19:30*

Workshop Title: **PRACTICAL FIRST AID**

**Workshop Organiser: Red Cross, Regional Centre Ohrid**

**Workshop Lecturers: Mladen Bozinovski**, international first aid trainer for trainers, Ohrid Red Cross; **Daniel Naumovski**, international first aid trainer for trainers, Ohrid Red Cross

**Workshop Purpose:** Giving non ampoule assistance to patients

**Workshop Description:** The majority of the time the doctors are expected to provide assistance beyond their working hours. But once faced with the need for injection actions in such patients and the inability to do so, confusion arises when and how to react, and further whether such reactions are handled properly. This workshop will discuss the most common situations that occur at home, at workplaces, in the streets etc. and how to act properly through giving first aid. In addition to focus is CPR- participants will have the opportunity to test their knowledge of computer-based model.

The lecture is organized with scenario cards and scenarios involving actors with simulated wounds on them.



### **C.) WORKSHOP ON PRACTICAL SKILLS**

*Day: Sunday, 12.05.2013*

*Time: 16:30 - 19:30*

**Workshop Title: PARENTERAL APPLICATION OF DRUGS, URETHRAL CATHETERIZATION**

**Workshop Lecturers and Organisers:** Assist. prof. Gordana Panova, MD, PhD, Faculty of medical sciences, University "Goce Delchev", Shtip, Republic of Macedonia  
**Assist. Valentina Velkoska Nakova, MD, Faculty of medical sciences, University "Goce Delchev", Shtip, Republic of Macedonia**

**Workshop Purpose:** Education and mastering practical skills using appropriate models and simulators for parenteral application of drugs and urethral catheterization.

**Workshop Description:** Obtaining parenteral application of drugs and urethral catheterization are essential skills for all physicians.

Peripheral intravenous access is one of the simplest invasive procedures, but mastering this potentially lifesaving intervention requires refined skills and experience. It is required in a broad range of clinical applications, including intravenous drug administration, intravenous hydration, and transfusions of blood or blood components, as well as during surgery, during emergency care, and in other situations in which direct access to the bloodstream is needed.

Female and male urethral catheterization is indicated for both therapeutic and diagnostic purposes. It permits effective bladder drainage in patients with acute or chronic urinary retention. Also, facilitates diagnosis in several circumstances, such as obtaining sterile urine specimens for urinalysis, measuring residual volumes after voiding, instilling contrast media for imaging procedures, and monitoring the urinary output of critically ill patients.

Learning these accurate practical skills is necessary for any good physician.



**D). WORKSHOP ON SURGERY**

*Day: Sunday, 12.05.2013*

*Time: 16:30 - 19:30*

Workshop Title: **BREAST CANCER**

**Workshop Chairperson and Organiser: Prof. Andreja Arsovski, MD, PhD, Private General Hospital Remedika, Skopje, Republic of Macedonia**

**Workshop Lecturers:** Prof. Andreja Arsovski, MD, PhD; Liljana Stojanovska, MD; Elizabeta Babushku, MD; Nade Petanoska, MD;

**Workshop Purpose:** The aim of the workshop is to teach the students more about breast cancer; its aetiology, pathology, epidemiology, diagnostics and prognostics, Students will learn self examination and doctor's examination on breasts.

**Workshop Description:** The fact that the most frequent cancer in women is the breast cancer is enough to motivate us to learn about it. The workshop consists of several parts. In the first part we will discuss about aetiology, pathology, epidemiology, diagnostics and prognosis. In the second part the students will learn the practical skills in breast examination. Students will have the opportunity to try their skills on a model. The third part is about modern therapeutic protocols in breast cancer treatment. The last part is case reports discussion. At the end of this workshop student will have a complete knowledge of all aspects of breast cancer, early detection, diagnostics and treatment.



### E). WORKSHOP ON SCIENCE

Day: Monday, 13.05.2013

Time: 16:00 - 19:30

Workshop Title: **SCIENTIFIC PAPER – TO WRITE AND TO PUBLISH**

**Workshop Chairpersons:** Prof. Mirko Spiroski, MD, PhD, Institute of Immunobiology and Human Genetics, Institutes, Faculty of Medicine, University "Sts. Cyril and Methodius", Skopje, Republic of Macedonia; Haris Babacic, President of The students' Scientific Club at Macedonian Medical Students' Association

**Workshop Lecturers:** Assist. prof. Dejan Trajkov, MD, PhD; Assist. Aleksandar Petlichkovski, MD, PhD; Assist. Slavica Hristomanova, MD; Assist. Aleksandar Senev, MD; Assist. Meri Krijas, MD;

**Workshop Purpose:** The aim of this workshop is to give practical advice to the participants on how to write and publish their work.

**Workshop Description:** Scientific research articles represent a communication method that scientists use to communicate and discuss their findings not only with their colleagues, but also with the general public. Much of the value of a scientific communication lies in it being formulated according to a widely accepted, standard structure.

This workshop was first held in 2003 and every year since then, therefore making 2013 the 10-year anniversary. It consists of two parts, in the first of which participants will be taught how to use traditional and advanced online tools to research the existing literature with regard to their topic of interest. The second part will then focus on what a scientific paper is, followed by in-depth descriptions of the different types thereof and their structuring.

Each part will be supplemented with a practical work session in which participants will be guided through thesis writing and the preparation of a scientific paper and an accompanying oral presentation.

At the end, all participants will be awarded a certificate which is part of elective subject "Basics of scientific work".



**F.) WORKSHOP ON SPORTS' MEDICINE:**

*Day: Monday, 13.05.2013*

*Time: 16:00 - 19:30*

Workshop Title: **NUTRITION AND SUPPLEMENTATION IN SPORT**

**Workshop Lecturer and Organiser:** Assist. prof. Zoran Handziski, MD, PhD, specialist of sports medicine, Faculty of medical sciences, University „Goce Delcev“, Shtip, Republic of Macedonia

**Workshop Purpose:** The main purpose is to present the basic principles of nutrition and supplementation in sport connected with the newest scientific findings and a great role and meaning of this field in sport performance and results. On the other side, we would like to present a new approach in sports medicine - Exercise is medicine, where nutrition and supplementation take a serious part in process of prescription of exercises in prevention and managing of metabolic, cardiovascular and degenerative disorders.

**Workshop Description:** According with the findings of medical examinations and exercise testing in laboratory and field (questionnaires, body composition, food intolerance, anaerobic threshold, individual energy expenditure etc), we will present an approach of individual diet and supplementation prescription connected with the athlete (or patient) and type of sport. Presenting this approach, all participant could be included in making individual diet and supplementation with open discussion and questions.



### **G.) WORKSHOP ON MENTAL WELLBEING**

*Day: Monday, 13.05.2013*

*Time: 16:00 - 19:30*

Workshop Title: **ACADEMIC PROCRASTINATION: "I WILL DO IT TOMORROW"**

**Workshop Lecturer and Organiser:** Assist. prof. Sanja Mancevska, MD, PhD, psychiatrist, Department of Physiology, Faculty of medicine, University "Sts. Cyril and Methodius", Skopje, Republic of Macedonia

**Workshop Purpose:** The aim of the workshop is to identify the internal and external causes of academic procrastination in medical students, to discuss its consequences and to present strategies to reduce its negative impact on mental wellbeing.

**Workshop Description:** Academic procrastination or student syndrome is a very prevalent behavioural pattern among university students all over the world. It is a voluntary delay of an intended action despite expecting to be worse off for the delay.

The causes of procrastination involve personality traits (neuroticism, impulsiveness, conscientiousness), motivation and self-regulation. External sources refer to task characteristics (timing of rewards and punishments, and task aversiveness) and environmental influences (lack of choice, competitiveness, expectations for the task outcome).

Procrastination may result in stress, a sense of guilt and crisis, severe loss of personal productivity which can impede normal functioning and reduce the quality of life of the procrastinator.

Strategies for overcoming procrastination will be presented and discussed.





## H.) WORKSHOP ON SURGERY

*Day: Monday, 13.05.2013*

*Time: 16:00 - 19:30*

Workshop Title: **SUTURING**

**Workshop Lecturer and Organiser: Prof. Aleksandar Karagjozov, MD, PhD, Clinic for Abdominal surgery, Faculty of medicine, University "Sts. Cyril and Methodius", Skopje, Republic of Macedonia**

**Workshop Purpose:** The aim of the workshop is to learn more about wounds, the healing process and practical knowledge about tissue closing and suturing techniques.

### **Workshop Description:**

Different types of wounds are one of the main, daily problems that doctors meet nowadays. So it is very important to know first to recognize which type of wound is it and how to treat it properly. The workshop consists of two parts; the first part is a theoretical lecture about wounds, types, healing. The second part is focused on suturing materials and techniques, theoretical but focused on practical skills. The students will have the opportunity to learn from one of the most eminent surgeons in Macedonia, to accept advices and opportunity to try their practical skills on skin material.



## **PROGRAMME**





## SCHEDULE:

Please follow the schedule. Do not be late! Thank you.

Time	Saturday, 11. May 2013
10:00; 11:00	Departure from Skopje to Ohrid
09:00-16:00	Arrival and registration in Ohrid
16:00-17:00	MMSA-IFMSA Promotion
18:00-19:00	Opening Ceremony
19:00-20:00	Lecture I
20:00-21:30	Dinner
22:30-...	Party

Time	Sunday, 12. May 2013
07:00-09:00	Breakfast
08:30-11:00	Plenary session I (Small break 09:40-09:50)
11:00-11:30	Coffee break
11:30-14:00	Plenary session II (Small break 12:40-12:50)
14:00-15:00	Lunch
15:00-16:30	Beach games
16:30-19:30	Workshops I
19:00-21:00	Dinner
22:30-...	Party



<b>Time</b>	<b>Monday, 13. May 2013</b>
07:00-09:00	Breakfast
08:30-10:50	Plenary session III (Small break 09:30-09:40)
10:50-11:10	Coffee break
11:10-13:20	Plenary session IV (Small break 12:10-12:20)
13:20-15:00	Lunch
15:00-16:00	Lecture II
16:00-19:30	Workshops II
20:00-22:00	Closing Ceremony and Gala dinner
22:30-...	Party

<b>Time</b>	<b>Tuesday, 14. May 2013</b>
07:00-09:00	Breakfast
10:00-16:00	Visit to Monastery "Saint Naum" by ship
16:30	Departure to Skopje

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# PLENARY SESSION I

Anatomy, Pathology, Physiology, Anthropology, Patophysiology

Date: May 12<sup>th</sup> 2013

**ORAL PRESENTATIONS**

Start time: 8:30-10:45

**POSTER PRESENTATIONS**

Start time: 10:45-11:00

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## **List of presentations in plenary session I:**

- 1. RENOVASCULAR HYPERTENSION AND ULTRASTRUCTURE OF THE LEFT VENTRICLE IN CASE OF DIFFERENT TREATMENT OPTIONS (EXPERIMENTAL RESEARCH)  
OLGA LYASHCHENKO**
- 2. THE ROLE OF CHROMOGRANIN A IN THE DIAGNOSIS OF NEURO-ENDOCRINE TUMORS  
NADICA TRAJKOVSKA**
- 3. THE EFFECTS OF ALISKIREN ON CARDIO DYNAMIC PARAMETRES ON ISOLATED RAT HEART  
KATARINA GICIC**
- 4. ELECTROPHYSIOLOGICAL PARAMETTERS OF LEARNING IN SUBJECTS WITH HIGH ANXIETY LEVELS  
ANA VASILEVA**
- 5. MICROMORPHOLOGICAL CHANGES OF INSULINOCYTES OF THE PANCREAS IN RATS TREATED WITH FURFURAL  
NIKOLA TODOROV**
- 6. CONGENITAL HEART ANOMALIES  
IGOR TRPKOVSKI**
- 7. STUDY ON HAND CLASPING (HC) AND ARM FOLDING (AF) IN ALBANIAN POPULATION FROM R. OF MACEDONIA  
EGZON MEMEDI**
- 8. THE EFFECTS OF THE TWO-MONTH BASIC TRAINING ON OXIDATIVE STATUS OF ELITE ATHLETES  
ZELJKO MARINKOVIC**
- 9. BASIC DIAGNOSTIC IMMUNOHISTOCHEMICAL ALGORITHM OF PULMONARY NEOPLASMS  
MARKO KOSTOVSKI**
- 10. ANTHROPOMETRIC PARAMETERS FOR ASSESSMENT OF THE INTRAUTERINE GROWTH OF NEWBORN CHILD  
ALEKSANDRA TODOROVA**
- 11. FOUR MORPHOLOGIC FEATURES: DARWIN'S TUBERCLE, TONGUE ROLLING, WIDOW'S PEAK, DIMPLES. FAMILIAL STUDY IN SAMPLE OF ALBANIAN NATIONALITY  
RINA PURRINI**
- 12. FAST FOOD CONSUMPTION IN RELATION TO BODY MASS INDEX AMONG HIGH SCHOOL STUDENTS  
METODI DONEV**
- 13. HEREDITARY SUPRACONDYLAR SPUR OF THE HUMERUS: CASE REPORT  
STRAHIL TODOROV**
- 14. HAND CLASPING AND ARM FOLDING. FAMILIAL STUDY AMONG MACEDONIAN POPULATION  
LJUBICA ILIESKA**
- 15. TSH EFFECTS ON THYROID MORPHOLOGY AND FUNCTION – CASE REPORT  
HRISTIJAN KIMOSKI**



**RENOVASCULAR HYPERTENSION AND ULTRASTRUCTURE OF THE LEFT VENTRICLE IN CASE OF  
DIFFERENT TREATMENT OPTIONS (EXPERIMENTAL RESEARCH)**

*(oral presentation)*

**Author(s):** OLGA LYASHCHENKO  
**Mentor(s):** Prof. Kutya Sergei Anatol'evich, MD, PhD  
**Country:** Ukraine  
**University:** Crimea State Medical University "S.I.Georgievskiy"  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Pathology**

**Introduction:** It is known that adequate treatment reduces the risk of complications for the patients suffering from renovascular hypertension and improves the quality of life in this group of people, but current pharmacotherapy can't always prevent negative changes in the target organs. The aim of our study was to establish the degree of ultrastructural changes in the left ventricle of normotensive rats with induced renovascular hypertension and possibility of pharmacological correction.

**Materials and methods:** The experiment was carried out on 40 white Wistar rats. All experimental animals were divided into the following groups: the first group—control (with the induced hypertension without correction); the second group –induced hypertension and usage of angiotensin-converting enzyme inhibitors (ACEI); the third group –induced hypertension and usage of calcium channel blockers; the fourth group – induced hypertension and usage of ACEI and calcium channel blockers. Correction of hypertension was carried out by intramuscular administration of ACEI and calcium channel blocker for 2 months period. Electron microscopic research was carried out to establish the character of changes taking place in the myocytes in the left ventricle of the animals from all the experimental groups.

**Results:** In the third experimental group ribosomes, granular endoplasmic reticulum and Golgi apparatus were accumulated in the sarcoplasm of cardiomyocytes. This observation can serve as the evidence of protein-production system activation and as a consequence - hypertrophy. The number of mitochondria, as well as their diameter is increased.

**Conclusion:** It was established that monotherapy with a calcium channel blocker has a strong positive effect on the myocardium of the left ventricle of animals with induced arterial hypertension whereas monotherapy with angiotensin-converting enzyme and the combined effect of the above drugs did not have a positive impact on hypertrophy of the heart muscle.

**Keywords:**

Electron microscopy, cardiomyocytes, hypertension, correction, rats.



## THE ROLE OF CHROMOGRANIN A IN THE DIAGNOSIS OF NEURO-ENDOCRINE TUMORS

(oral presentation)

**Author(s):** NADICA TRAJKOVSKA, Bojan Teov  
**Mentor(s):** Assist. Rubens Jovanovikj, MD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Pathology**

**Introduction:** The purpose of this study is to evaluate the pattern of serum Chromogranin A (CgA) levels in patients diagnosed with neuro-endocrine tumors (NETs), patients with chronic diarrhea and/or colitis, as well as patients suspected of having NET.

**Materials and methods:** Seventy nine patients' Chromogranin A levels were measured in a total of 106 specimens, from which 20 patients with non-tumor diagnosis, 18 patients with benign tumors, 17 patients with malignant tumors and 29 patients with clinical suspicion for NET based upon presence of carcinoid-like syndrome. The serum CgA levels were measured with the Dako Chromogranin A Elisa Kit.

**Results:** From 17 patients with malignant NET in a total of 29 measurements, 25 came positive for elevated CgA plasma levels with an average value of 230,24 U/L. From 18 patients with benign NET in a total of 22 measurements, 15 came positive with an average value of 27,45 U/L. From 20 patients with a non-tumor diagnosis and in a total of 25 measurements, 19 came positive with an average value of 82,11 U/L. CgA serum levels were significantly higher in patients diagnosed with a malignant NET compared to benign NETs ( $P < 0,001$ ). CgA plasma levels were higher in patients with a current non- tumor diagnosis compared to benign NET ( $P < 0,001$ ).

**Conclusion:** Our study confirms high sensitivity (0,92) and lower specificity (0,78) of CgA in diagnosing NETs. CgA values higher than 185U/L are indicative of malignant NETs and necessitate further investigations of such patients. In some cases regarding patients without any detectable tumors (confirmed with other methods) we encountered elevated serum CgA level, probably drug (Proton-pump blockers) - or stress-induced.

**Keywords:**

Chromogranin A, neuro-endocrine tumors, CgA, NET





THE EFFECTS OF ALISKIREN ON CARDIO DYNAMIC PARAMETRES ON ISOLATED RAT HEART

(oral presentation)

**Author(s):** KATARINA GICIC, Zeljko Marinkovic

**Mentor(s):** Prof. Vladimir Jakovljevic, MD, PhD

**Country:** Serbia

**University:** University of Kragujevac

**Faculty:** Faculty of Medical Sciences

*Field of medicine:* **Physiology**

**Introduction:** Aliskiren is the first in a class of drugs called direct renin inhibitors. Its current licensed indication is essential hypertension. The aim of present study was to estimate direct effect of Aliskiren, applied in 3 doses on isolated rat heart.

**Materials and methods:** The hearts of male Wistar albino rats (n = 36, age 8 weeks, body mass 180-200 g), were excised and retrogradely perfused according to the Langendorff technique at different perfusion pressures (40, 60, 80, 100 and 120 cmH<sub>2</sub>O) and administrated with three doses of Aliskiren (0.1, 1 and 10 μM). After the insertion and placement of the sensor in the left ventricle, the parameters of heart function: maximum rate of pressure development in the left ventricle (dP/dt max), minimum rate of pressure development in the left ventricle (dP/dt min), systolic left ventricular pressure (SLVP), diastolic left ventricular pressure (DLVP), mean blood pressure (MBP) and heart rate (HR) were continuously registered. Flowmetry was used to evaluate the coronary flow.

**Results:** Our results showed that administration of Aliskiren in dose of 0.1 μM changed significantly only DLVP and HR parameters at 100 and 120 cmH<sub>2</sub>O. The administration of Aliskiren in dose of 1 μM changed significantly dP/dt max, dP/dt min, SLVP and MBP at 100 and 120 cmH<sub>2</sub>O, and DLVP, HR and coronary flow were changed significantly at all pressures except 40 cmH<sub>2</sub>O. Administration of Aliskiren in dose of 10 μM induced significant changes in HR and coronary flow at all perfusion pressures, dP/dt max, dP/dt min at all perfusion pressures except 40 cmH<sub>2</sub>O, SLVP and DLVP at 100 and 120 cmH<sub>2</sub>O, and MBP was not changed significantly.

**Conclusion:** Our results let us to conclude that Aliskirin has dose-dipendent effect on isolated rat heart.

**Keywords:**

Aliskiren, isolated heart, cardio dynamics



**ELECTROPHYSIOLOGICAL PARAMETERS OF LEARNING IN SUBJECTS WITH HIGH ANXIETY LEVELS**  
(oral presentation)

**Author(s):** ANA VASILEVA, Zorica Taskova  
**Mentor(s):** Assist. prof. Sanja Manchevska, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Psychophysiology*

**Introduction:** The aim of this study was to evaluate the learning process that occurred during the electroexpectogram (EXG) paradigm in 30 subjects with high trait anxiety and in 30 subjects with low trait anxiety, aged 19 to 22.

**Materials and methods:** The level of the subjects' perceived anxiety was evaluated with Taylor Manifest Anxiety Scale (TMAS), a psychological instrument for evaluation of trait anxiety. The subjects who participated in the electrophysiological test were in the upper and the lower 10 percentile of the TMAS score frequency distribution. The EXG paradigm is an electrophysiological method, in which "go" and "no go" conditions are employed based on a biofeedback design. The leading parameter is the amplitude of CNV potential recorded on Cz. The threshold level for CNV potential was 5  $\mu$ V.

**Results:** The minimal reaction time in subjects with high anxiety was  $187.3 \pm 24.1$  ms and in subjects with low anxiety it was  $170 \pm 31.4$  ms. The mean reaction time in subjects with high anxiety during the "go condition" was  $362.2 \pm 182.6$  ms and in subjects with low anxiety it was  $276.5 \pm 152.1$  ms ( $p < 0.005$ ). The number of the oscillations of the CNV amplitude above the threshold line level in subjects with high anxiety was  $2.8 \pm 2.0$  ms and in subjects with low anxiety was  $2.1 \pm 2.3$  ms.

**Conclusion:** Subjects with high anxiety levels showed significantly slower motor reaction towards the imperative tone during the EXG paradigm compared to subjects with low anxiety. All parameters of oscillatory curves which were obtained during the EXG paradigm in every subject, showed a tendency for decrement as the paradigm reached its end, due to a process of learning in both groups.

**Keywords:**

Contingent negative variation, learning, anxiety, electroexpectogram paradigm



**MICROMORPHOLOGICAL CHANGES OF INSULINOCYTES OF THE PANCREAS IN RATS TREATED WITH FURFURAL**

*(oral presentation)*

**Author(s):** NIKOLA TODOROV  
**Mentor(s):** Prof. Snezhana Cekic, MD, PhD  
**Country:** Serbia  
**University:** University of Nish  
**Faculty:** Faculty of Medicine

*Field of medicine: Physiology*

**Introduction:** Considering numerous functions of the liver, as well as a functional relation between the liver and the pancreas, we set out to examine the effects of furfural, as a hepatotoxic substance, on the endocrine pancreas.

**Materials and methods:** We used the white male Wistar rats 150-200 g body weight divided into 2 groups. The control group comprised 10 animals, and the experimental group involved 40 rats. The experimental group was treated with furfural. The immunocytochemical PAP procedure was used for the examination of the structural characteristics of A, B, D and PP cells of the endocrine pancreas.

**Results:** In order to visualize A, B, D and PP cells, we used monoclonal antibodies on glucagon, insulin, somatostatin and pancreatic polypeptide. In the control group of rats, A, B, D and PP cells were localized in the periphery of the insula. In the experimental group, we have noticed hypogranulation of A, B, D and PP cells with less cellular deposit.

**Conclusion:** From our experiment we can conclude that furfural reduces the synthesis and deposits of glucagon, insulin, somatostatin and pancreatic polypeptide in A, B, D and PP cells.

**Keywords:**

Insulinocytes, pancreas, immunocytochemical characteristics, rats, furfural



CONGENITAL HEART ANOMALIES  
(oral presentation)

**Author(s):** IGOR TRPKOVSKI  
**Mentor(s):** Prof. Elizabeta Zisovska, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Patophysiology**

**Introduction:** Cardiac anomalies are among the most common in terms of overall anomalies that affects newborns, and the most common impact is mainly exogenous. According to the Sprenger's classification of morphogenetic development, those associated with chromosomopaties represent malformations, while occurring in different gestational weeks and isolated, they are most probably disruptions.

The purpose is to give a more detailed presentation about the already diagnosed septal defects in newborns, compared to the gestational differentiation of the human heart as an organ, and also to demonstrate possible co-morbidities and association of the above mentioned cardiac anomalies from the morphogenetic point of view, using the Sprenger's classification of diseases.

**Materials and methods:** The material includes the medical histories of newborn babies, delivered in Public Health Institution (PHI) "Clinic of Gynaecology and Obstetrics" - Skopje, within the department of newborns in the period from 15 November 2012 to 15 March 2013.

The retrospective analytical method was used, with a focus on the embryology and morphogenesis on the already diagnosed anomalies obtained in a particular segment of the organogenesis.

**Results:** The following septal defects have been processed: Atrial: Total 6 anomalies, of which 4 with ASD Type-II, and 2 with ASD Type-I (of which one newborn with Syndrome Down - Sy. Down); Ventricular: A total of 3, one newborn with Sy. Down.

**Conclusion:** If presented as co-morbid conditions, they often go along with Sy. Down.

In disruptions, more detailed examination may indicate the quantity and quality of impact, regarding the exogenous factors during the organogenesis. Their clarification can help prevent the risk of the above mentioned anomalies.

**Keywords:**

Anomalies, co-morbidity and Association, Sprenger's classification, chromosomopaties.



STUDY ON HAND CLASPING (HC) AND ARM FOLDING (AF)  
IN ALBANIAN POPULATION FROM R. OF MACEDONIA  
(oral presentation)

**Author(s):** EGZON MEMEDI, Rina Purrini  
**Mentor(s):** Assist. prof. Ljudmila Efremovska, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Physiology and anthropology*

**Introduction:** Inheritance of two asymmetrical behavioral traits, HC and AF is studied in many populations in the world. In some of them is confirmed hereditary component in the manifestation of both traits, in part only one trait and a small number of studies do not confirm the heritability. The aim of this paper was to examine the heritability of HC and AF in a sample of the Albanian population living in the Republic of Macedonia.

**Materials and methods:** The study included 70 Albanian families with a total of 279 participants (70 pairs of parents and 139 children-offspring). The presence of the trait was determined by self-testing. When performing HC in the top position can be the thumb of the left (HCL) or right hand (HCR). When performing AF is possible the right forearm to be placed on the left (AFR) or vice versa, the left forearm is on the right (AFL).

**Results:** In both samples, HC and AF, the frequency of R [HCR (0,51) and AFR (0,55)] is higher. The generational difference (parents and offspring) in the frequency of HCR and AFR statistically is not significant. Related to HC, during the pairings in which at least one parent is HCR, the percentage of the offspring with HCR is higher (for RxR/RxL/LxL is  $p=0.0008$ ). Such a difference in AF was not found.

**Conclusion:** The results of this study show that in the case of HC we can talk about a certain role of genetic factor in the manifestation of the trait in Albanian population.

**Keywords:**

Family study, hand clasping, arm folding, Albanian population.



THE EFFECTS OF THE TWO-MONTH BASIC TRAINING ON OXIDATIVE STATUS OF ELITE ATHLETES  
(oral presentation)

**Author(s):** ZELJKO MARINKOVIC, Katarina Gicic  
**Mentor(s):** Prof. Vladimir Jakovljevic, MD, PhD  
**Country:** Serbia  
**University:** University of Kragujevac  
**Faculty:** Faculty of Medical Sciences

*Field of medicine:* **Physiology**

**Introduction:** The aim of the present study was to determine the effects of two-month basic training on oxidative status of the female handball national team members the Republic the Serbia.

**Materials and methods:** The study included 19 women's handball players age  $19 \pm 1$  year. During this period they were on same diet, with same intake of supplements (antioxidants, amino acids and vitamins). Blood samples were collected (before and after two-month training programme) in order to measure the following oxidative stress markers: index of lipid peroxidation (measured as TBARS), nitrites ( $\text{NO}_2^-$ ), superoxide anion radical ( $\text{O}_2^-$ ), hydrogen peroxide ( $\text{H}_2\text{O}_2$ ), superoxide dismutase (SOD), catalase (CAT) and reduced glutathione (GSH) level.

**Results:** After two months, the levels of  $\text{H}_2\text{O}_2$  were significantly increased, while the  $\text{O}_2^-$ ,  $\text{NO}_2^-$  and TBARS remained unchanged. On the other hand, SOD activity decreased, while CAT activity and GSH remained unchanged.

**Conclusion:** On the basis of our results, we can conclude, that well planned exercise accompanied with addition supplementation, can protect against oxidative stress.

**Keywords:**

Sports training, handball, oxidative stress



**BASIC DIAGNOSTIC IMMUNOHISTOCHEMICAL ALGORITHM OF PULMONARY NEOPLASMS**  
(oral presentation)

**Author(s):** MARKO KOSTOVSKI  
**Mentor(s):** Prof. Gordana Petrushevska, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Pathology**

**Introduction:** Immunohistochemistry (IHC) can be used in the routine diagnosis of pulmonary neoplasms, in order to identify biological markers. Consequently, a mandatory need for improving tumor subtyping is emerging. Our aim was to apply antibody panel and examine its utility in the differential diagnosis of lung cancer.

**Methods:** Twenty-one cases (both bioptic and surgical material) of diagnosed lung cancer were investigated. An immunohistochemical analysis-(RTU FLEX Immunoperoxidase system) was made using Dako monoclonal antibodies (Cytokeratin 7, CK7; Cytokeratin 20, CK20; Neuron specific enolase, NSE, Thyroid transcription factor-1, TTF1 and Leucocyte common antigen, LCA). Extra IHC was performed in some cases, where it was necessary.

**Results:** Pathohistological diagnosis of small cell carcinoma-(SCLC), non-small cell carcinoma-(NSCLC) and not other specified was made in 3/21 (14,29%), 15/21 (71,43%) and 2/21 (9,52%) cases, respectively. LCA expression was not expressed in our cases (0/24). Most adenocarcinoma was CK7(+)-83.3% and TTF1(±)-50%. The CK20 (+) expression showed metastatic pulmonary deposite of adenocarcinoma in the lung. TTF1(+)-100%, NSE(+)- 100% and CK7(-)-66.66%, expression was find in most cases of SCLC. NSE(+)-100% had highest expression in Carcionoid tumor, while TTF1(+) expression was highest in SCLC. For squamous cell carcinoma (SqCC), immunostaining was negative for this antibody panel, except focal and weak expression of NSE-60%, so we did some extra IHC using CKHMW antibody, which showed highest expression. Using extra antibodies, such as CKHWS, may contribute in SqCC diagnose.

**Conclusion:** Essential antibody panel that we suggest for routine basic differential diagnose of pulmonary neoplasms is: TTF1, CK7, CK20 and NSE. Because of serious overlapping IHC should not be performed alone, but together with the morphological light microscope diagnostic technique.

**Key words:**

Immunohistochemistry, pulmonary neoplasms, diagnostic algorithm.



**ANTHROPOMETRIC PARAMETERS FOR ASSESSMENT  
OF THE INTRAUTERINE GROWTH OF NEWBORN CHILD**

*(oral presentation)*

**Author(s):** ALEKSANDRA TODOROVA  
**Mentor(s):** Prof. Elizabeta Zisovska, MD, PhD  
**Country:** Macedonia  
**University:** University "Goce Delchev" of Shtip  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Anatomy**

**Introduction:** The placenta is considered the most needed temporary organ, which provides the foetus normal respiration, nutrition and eliminating the decomposed products etc. Foetal hypotrophy means infants born with birth weight under 10 percentile. The most common cause for hypotrophy is insufficient input of food by the mother and insufficient flow of blood through the placenta. There are two forms of disturbed foetal growth: symmetrical and asymmetrical.

Aims were several: to determine the percentage of newborn babies who have problems with the intrauterine growth, the proportion of hypotrophy and hypertrophy infants, the distribution of symmetrical and asymmetrical infants, and which of the anthropometric parameters (birth weight, body mass index and head circumference) had the highest influence of the growth restriction.

**Materials and methods:** The survey was performed on 263 successively full-term infants during 2012. All retrieved data out of the neonatal documentation were entered in database, processed statistically and the results were presented numerically and graphically.

**Results:** The data analysis for 263 newborns has shown the following results: 79,3% (209) were eutrophic, 10% (26) were hypertrophic, and 10,7% (28) were hypotrophic. Symmetrical hypotrophic were 0,8% (2) and 4,6% (12) were asymmetrical hypotrophic. Regarding body mass index, 12,6% (33) had calculated body mass index under 5 percentile, while infants with body mass index above 95 percentile are 1,2% (3). The results about anthropometric parameter for head circumference indicate that about 9,2% (24) had head circumference under 5 percentile, while 7,3% (19) had head circumference above 95 percentile.

**Conclusion:** For foetal growth restriction, the most necessary action is an appropriate and regularly monitoring of the pregnancy. If there are some parameters of growth restriction, the monitoring has to be continued after birth and perform additional nutrition.

**Keywords:**

Placenta, hypotrophic, hypertrophic, intrauterine growth restriction





**FOUR MORPHOLOGIC FEATURES: DARWIN'S TUBERCLE, TONGUE ROLLING, WIDOW'S PEAK,  
DIMPLES. FAMILIAL STUDY IN SAMPLE OF ALBANIAN NATIONALITY**

*(oral presentation)*

**Author(s):** RINA PURRINI, Egzon Memedi  
**Mentor(s):** Prof. Vesela Maleska Ivanovska, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Physiology and anthropology*

**Introduction:** This study analyses the prevalence, gender and generation differences of 4 morphological phenotype characteristics (Darwin's tubercle, tongue rolling, widow's peak, dimples) of 70 families of Albanian nationality who live in the Republic of Macedonia. In literature, there are indications of different representations of these characteristics within various populations. These features are cited as examples of inherited characteristics that are dominantly inherited, however this is not fully confirmed by some studies.

**Materials and methods:** This study examines 277 participants (70 couples-parents and 137 kids-offspring) in terms of the presence of the features, the succession of the features within the family and the difference in the representation of the features by the parents and the offspring. The presence of the feature was determined by inspection.

**Results:** The found frequency of the features is: Darwin's tubercle 0.65 (0.63-offspring, 0.67-parents); tongue rolling 0.71 (0.75-offspring, 0.69-parents) widow's peak 0.18 (0.21-offspring, 0.15-parents) and dimples 0.44 (0.38-offspring, 0.53-parents).

When pairing two parents who did not possess the features, the frequency of the particular features in offspring was: Darwin's sign 0,31; tongue rolling 0,33; straight line of the forehead 0.30; dimples 0.22.

**Conclusion:** According to the obtained results it can be concluded that the frequency of features is within the ones cited in the literature. The influence of the genetic factors in the inheritance of the features does exist, but the inheritance is not by Mendel's principle of monogenetic dominant inheritance. Outside influences are also important in determining the presence of the features.

**Keywords:**

Familial study, Albanian population, Darwin's tubercle, tongue rolling, widow's peak, dimples.



## FAST FOOD CONSUMPTION IN RELATION TO BODY MASS INDEX AMONG HIGH SCHOOL STUDENTS

(oral presentation)

**Author(s):** METODI DONEV, Marko Kostovski, Ana Vasileva

**Mentor(s):** Prof. Lidija Todorovska, MD, PhD

**Country:** Republic of Macedonia

**University:** University "Sts. Cyril and Methodius" of Skopje

**Faculty:** Faculty of Medicine

*Field of medicine: Physiology and anthropology*

**Introduction:** An increase in fast food consumption-FFC and busy life combined with lack of nutritional education has led to an increase in weight gain among high school students-HSS all over the world. The aim of the study was to investigate the connection of 3 independent factors (the number of fast food meals-FFM, consumption of fresh salad-FS and dessert-D) with body mass index (BMI).

**Materials and methods:** A cross-sectional study was conducted and 150 HSS (75 girls and 75 boys) were surveyed in written forms in terms of their dietary habits. Their body height (cm) and body weight (kg) were measured with standard methodology and BMI (kg/m<sup>2</sup>) was calculated by the standard formula. The obtained data were processed in STATISTICA 7.1.

**Results:** In this study was determined statistically significant positive correlation ( $p < 0,05$ ) between the number of FFM and BMI. The average BMI of HSS who never order FS is significantly lower ( $p = 0,04$ ) than the average BMI of HSS who do it frequently. HSS who never consume D have a BMI for 1,85 kg/m<sup>2</sup> lower than those who consume it with more frequency. Therefore avoiding D consumption may have protective effect on BMI. A statistically significant difference between normal and overweight was found for D ordering, but the difference for the number of FFM and frequency of FS ordering was not significant.

**Conclusion:** FFC has significant independent positive association with BMI values. Higher frequency of overweight is evident among HSS and different strategies are needed to restrict FFC and prevent the possible health consequences.

**Keywords:**

Fast food, body mass index, high school students



HEREDITARY SUPRACONDYLAR SPUR OF THE HUMERUS: CASE REPORT

(oral presentation)

**Author(s):** STRAHIL TODOROV  
**Mentor(s):** Prof. Georgi Zafirovski, MD, PhD  
**Country:** Macedonia  
**University:** University "Goce Delchev" of Shtip  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Pathology**

**Introduction:** The spur or the supracondylar process variation of the humerus was first described by Struthers in 1849. The supracondylar spur is present in only 0.3% - 2.7% of humans. It is believed to represent a phylogenetic vestige of the supracondyloid foramen found in reptiles, cats, and climbing animals.

**Case report:** Three cases of supracondylar process of the humerus in three patients are presented. The main features of a supracondylar process correlated with an osteochondroma are reviewed. The three patients have a family relation - father and two daughters. No one of them had compression symptoms or pain. They accidentally revealed the outgrowth: the father during bathing, and in two children during bathing and dressing. RTG finding is identical in all three cases: orderly display of the skeleton on the right elbow; on the medial side of the distal right humerus is present soft tissue shadow like the avian spur, with a broad background associated with the skeleton; suspected for the cartilage exostose. Also, motor and sensory functions of the nerves and muscle strength were normal and Tinel and Phalen tests were negative in all three cases. No anomalies were identified on electromyography (EMG). Laboratory tests were within normal limits.

**Conclusion:** No one of our three patients were operated, because no one of them had median nerve compression or long standing pain. We suggest to follow-up the spur's growth in both children and to make new investigations in every 6 months, because the radial growth of the bones is not completed yet. As documented in our cases and review of the literature it is important to emphasize the characteristics of spurs as an anatomic variant and the differential diagnosis with osteochondroma.

**Keywords:**

Supracondylar process; humerus; RTG findings; electromyography



**HAND CLASPING AND ARM FOLDING. FAMILIAL STUDY AMONG MACEDONIAN POPULATION**  
(poster presentation)

**Author(s):** LJUBICA ILIESKA  
**Mentor(s):** Assist. prof. Ljudmila Efremovska, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Physiology and anthropology**

**Introduction:** The term lateral preference refers to the asymmetrical use of paired limbs or sense organ. Handedness, footedness, eyedness, and earedness are termed functional asymmetries, whereas hand-clasping, arm-folding, and leg-crossing are called postural asymmetries. The importance of genetic control of the inheritance of hand-clasping and arm-folding is goal of the analysis in this study.

**Material and method:** Familial model was applied in the analysis of inheritance. The study includes 163 families of Macedonian ethnicity (father, mother) with a total of 307 offspring. Hand clasping and arm folding were assessed by means of self-report inventory.

**Results:** The 55% of subject (58% of parents and 52% of offspring) prefer to clasp the left thumb over the right (LHC). The percentage of offspring with LHC is higher as the number of LHC parents increase from none [52% LHC (DHCxDHC)], to one [55% LHC (LHCxDHC)] to two parents [72 % LHC (LHC x LHC)]. The 51% of subject (51% of parents and 51% of offspring) prefer the right arm folding (DAF). The percentage of offspring with DAF higher as the number of DAF parents increase from none [32% (LAF x L AF)], to one [51% (LAF x DAF)] to two parents [62% (DAF x D AF)].

**Conclusion:** Familial data suggest that hand-clasping and arm folding may be under genetic control, although environmental influences are also evident.

**Key words:**

Hand clasping, arm folding, familial study, Macedonian population



**TSH EFFECTS ON THYROID MORPHOLOGY AND FUNCTION – CASE REPORT**

*(poster presentation)*

**Author(s):** HRISTIJAN KIMOSKI, Marina Srbinoska, Marija Ilievska,  
Nevena Ristevska, MD; Sinisha Stojanoski, MD;  
**Mentor(s):** Prof. Daniela Pop Gjorcheva, MD, PhD  
**Country:** Macedonia  
**University:** University “Sts. Cyril and Methodius” of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Pathophysiology*

**Introduction:** TSH is a hormone that stimulates thyroid gland function and growth. It is a glycoprotein synthesized and secreted by thyrotrope cells in the anterior pituitary gland. The hypothalamic–pituitary–thyroid axis TRH-TSH-T4/T3 is exerting negative feedback control. The hypothalamus senses low circulating levels of thyroid hormone (T3 and T4) and produces TRH. The TRH stimulates the pituitary to produce TSH. The TSH stimulates the thyroid to grow and produce thyroid hormone until levels in the blood return to normal. If TSH levels remain high after thyroidectomy, and no replacement therapy is administered, re-growth of the tissue remnants is a possible outcome. The aim of this study is to emphasize the TSH effects on thyroid morphology and function.

**Case report:** We present a case of a 58 years old female patient that underwent a surgical procedure-subtotal thyroidectomy due to a euthyroid multinodular goitre. Severe hypothyroid postoperative state was diagnosed and substitution therapy with L-thyroxine was administered. 5 years later, without receiving the substitution therapy, the patient was admitted and subclinical hypothyroid state was biochemically diagnosed. Ultrasonography and scintigraphy revealed enlarged functional postoperative thyroid remnant.

**Conclusion:** TSH stimulates re-growth of the postoperative tissue remnants due to hypertrophic and hyperplastic effects and also induces thyroid hormone production. TSH levels must be taken into consideration in postoperative patients, during pregnancy and especially in patients with differentiated thyroid carcinomas in order to prevent TSH-growth stimulation effects.

**Keywords:**

TSH, postoperative tissue remnant, substitution therapy

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## **PLENARY SESSION II**

**Genetics, Pharmacy and pharmacology, Epidemiology, Radiology,  
Microbiology, Patophysiology, Biochemistry, Public Health**

**Date: May 12<sup>th</sup> 2013**

**ORAL PRESENTATIONS**

**Start time: 11:30-13:30**

**POSTER PRESENTATIONS**

**Start time: 13:30-14:00**

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## **List of presentations in plenary session II:**

- 1. KIR-HLA\*<sup>C</sup> COMBINATIONS IN MACEDONIAN POPULATION**  
ALEKSANDRA PETRUSHEVA
- 2. THE USE OF LIPOSOMES IN TARGETED CANCER THERAPY**  
IRINA VELEVSKA
- 3. ANALYSIS OF GENETIC MARKERS ASSOCIATED WITH OSTEOPENIA AND OSTEOPOROSIS  
IN PATIENTS WITH CYSTIC FIBROSIS**  
ANGELA ZIMOSKA
- 4. OVERVIEW OF THIAZOLIDINES, NOVEL ANTICANCER MOLECULES: DESIGN, SYNTHESIS  
AND ANTICANCER ACTIVITIES**  
KEREM BURAN
- 5. ALLELE FREQUENCIES OF HFE, TFR3, AND FPN GENES IN HEALTHY UNRELATED  
MACEDONIANS**  
MARIJA TODOROVSKA
- 6. ANALYSIS OF EXTREMELY LOW FREQUENCY MAGNETIC POLLUTION FROM 10/0.4 kV  
TRANSFORMER STATIONS AND SOME EPIDEMIOLOGICAL ANALYZES**  
ALEKSANDAR KRLESKI
- 7. LABORATORY DIAGNOSIS OF DERMATOPHYTE INFECTIONS**  
HANA STAROVA
- 8. ELECTRONIC MICROSCOPIC CHARACTERISTICS OF ACINAR CELLS OF THE PANCREAS IN  
RATS TREATED WITH FURFURAL**  
NIKOLA TODOROV
- 9. SOME EPIDEMIOLOGICAL CHARACTERISTICS IN STROKE PATIENTS**  
EVGENIJA BANEVA
- 10. GOOD KNOWLEDGE OF HEALTHY LIVING ISN'T ENOUGH TO DECREASE INCIDENCE OF  
PEDICULOSIS CAPITIS IN INDONESIA: A CROSS-SECTIONAL STUDY**  
FIA AFIFAH MUTIKSA
- 11. CHLAMYDIA INFECTIONS**  
MARIJA JOVANOSKA
- 12. SCARLET FEVER EPIDEMIOLOGY IN 2012 - MACEDONIA**  
PETAR SEJMEV
- 13. USE OF ANTIBIOTICS WITHOUT A PHYSICIAN RECOMMENDATION FOR THE STUDENT  
POPULATION IN SHTIP, R. MACEDONIA**  
ANGJEL STOJANOVSKI
- 14. ESTRADIOL LEVEL AND SERUM LIPID PROFILE IN WOMEN DURING THEIR  
DEGENERATIVE LIFE**  
SARA BLAZHEVSKA
- 15. POOR KNOWLEDGE OF CLEAN AND HEALTHY LIVING BEHAVIOR IN INDONESIA  
AND ITS INFLUENCING FACTORS**  
FIA AFIFAH MUTIKSA



## KIR-HLA\**C* COMBINATIONS IN MACEDONIAN POPULATION

(oral presentation)

**Author(s):** ALEKSANDRA PETRUSHEVA  
**Mentor(s):** Assist. Aleksandar Petlichkovski, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Human Genetics**

**Introduction:** Killer cell Immunoglobulin-like Receptors (KIR) are cell surface molecules important in the regulation of the Natural Killer cells (NK) and other types of T-cells. The NK cells provide rapid immune response towards infected and malignant cells upon binding ligands found on the surface of the target cells. The result from the reaction is an activating or inhibiting signal. The HLA\**C* molecules are confirmed ligands for the KIR receptors. This study aims to examine the frequency of various KIR-HLA\**C* combinations in Macedonian population.

**Materials and methods:** DNA isolation with phenol-chloroform extraction from leucocytes was performed in total of 128 healthy, unrelated volunteers. Dynal Biotech (Pel-Freez Clinical Systems, Brown Deer, WI, USA) SSP kit was used for genotyping of 15 KIR genes. This method is a PCR technique using Sequence Specific Primers for amplification of target genes. The Reverse Hybridization Assay was used for HLA-DNA typing (Invitrogen, Life Technologies).

**Results:** The inhibiting pair KIR2DL2/3 + HLA\**C*1 was found to be the most frequent in Macedonian population with 76,54% (98 cases from total 128), KIR2DL1 + HLA\**C*2 was present in 82 cases (64,06%), whereas 55 cases (42,97%) had both inhibiting pairs. In addition, the activating functional pairs were found less frequently; 35 individuals (27,34%) had the pair KIR2DS1 + HLA\**C*2 and KIR2DS2 + HLA\**C*1 was detected in 34 (26,56%) individuals. Finally, only 15 (11,72%) had both activating pairs.

**Conclusion:** We have found dominance of inhibiting KIR-HLA\**C* combinations in Macedonian population, with the pair KIR2DL2/3 + HLA\**C*1 being the most frequent. In the evolutionary context this is probably due to a natural selection of genotypes containing more inhibiting combinations. We hypothesize that this would allow less self-destruction which is a necessity for normal immune development.

**Keywords:**

KIR genotyping, KIR-ligand combination, KIR-HLA, population study, Republic of Macedonia.





## THE USE OF LIPOSOMES IN TARGETED CANCER THERAPY

(oral presentation)

**Author(s):** IRINA VELEVSKA  
**Mentor(s):** Prof. Katerina Goracinova, Pharm. D., PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Pharmacy

*Field of medicine: Pharmacy and oncology*

**Introduction:** The clinical utility of most conventional chemotherapeutics is limited either by inability to deliver therapeutic drug concentrations to the target tissues or by severe and harmful toxic effects on normal organs and tissues. Controlled drug delivery systems have been attempted to overcome these problems by providing selective delivery to the affected area. Liposomes are small, spherical and enclosed compartments separating an aqueous medium from another by phospholipid bilayer and liposomal formulations are one of advanced drug delivery systems in clinical application. Liposomes are able to encapsulate lipophilic or hydrophilic drug with their lipidic layers or in their aqueous core respectively and deliver those to target site for in vivo application.

**Materials and methods:** In order to see the difference in pharmacokinetics of the free drug and drug encapsulated in liposome we use the method of in vitro simulation of single-compartment pharmacokinetic model-intravenous bolus.

We do two series of examination:

1. With 100mg/ml free doxorubicin
2. With 100mg/ml doxorubicin encapsulated in liposomes (Doxil)

**Results:** According this test free doxorubicin had an elimination half-life time of 0.3 h, in difference of doxorubicin encapsulated in liposomes which has elimination half-life time of 2.5 h. Free doxorubicin has volume of distribution 1472.54 L/kg and encapsulated doxorubicin has bigger values for  $V_d$ .

**Conclusion:** The use of liposomes especially of nanoliposomes for targeted anticancer therapy gives great possibilities for avoiding the site effect of the conventional anticancer therapy; also it increases the possibilities of curing cancer, by using specific characteristic of cancer tissue. Also it keeps the drug safe from metabolic modification or other type of outside influence which can affect the stability of the drug. Anyway the main problem is stability of liposome phospholipid layer. That is the main challenge for scientist in the future. Other main problem that has to be resolved is that nanoparticles can pass the brain barrier, accumulate and stay a long time in the brain causing site effects.

**Keywords:**

Liposomes; Doxorubicin.



**ANALYSIS OF GENETIC MARKERS ASSOCIATED WITH OSTEOPENIA AND OSTEOPOROSIS IN  
PATIENTS WITH CYSTIC FIBROSIS**

*(oral presentation)*

**Author(s):** ANGELA ZIMOSKA, Martin Mojsoski  
**Mentor(s):** Assist. Meri Kirijas, MD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Genetics**

**Introduction:** Cystic fibrosis (CF) is the most common recessive autosomal disorder in the Caucasian population which affects most critically the lungs, and also the pancreas, liver and intestine. These patients also frequently have low bone mineral density, osteopenia or osteoporosis. The calcitriol receptor, also known as the vitamin D receptor (VDR), encoded by the VDR gene, plays an important role in skeletal metabolism, including intestinal calcium absorption. The COL1A1 (type I alpha 1 collagen gene) gene provides instructions for making part of a large molecule called type I collagen. Collagens are a family of proteins that strengthen and support many tissues in the body, including cartilage, bone, tendon, skin, and the sclera. CTR (calcitonin receptor gene) encodes a high affinity receptor for the peptide hormone calcitonin. The encoded protein is involved in maintaining calcium homeostasis and in regulating osteoclast-mediated bone resorption. ESR1 (estrogen receptor alpha) encodes an estrogen receptor, which together with the estrogen are essential for sexual development and reproductive function, but also play a role in other tissues such as bone. The aim of our study was to determine whether polymorphisms in 4 genes (VDR, COL1A1, CTR and ESR1) included in the metabolism of calcium are associated with decreased bone mineral density in patients with cystic fibrosis.

**Material and methods:** DNA was isolated from 22 patients with cystic fibrosis with standard phenol-chlorophorm method of isolation. SSP method was used to determine the polymorphisms in four genes involved in the calcium metabolism.

**Results:** We found that 95.5% of the patients had VDR AG genotype and 4.5% had the VDR GG genotype in VDR (IVS10+354G>A), whereas in VDR (I352I) (TaqI) 9% had the VDR TT genotype and 91% VDR TC genotype and in VDR (M1T) (FokI) 4.5% had the VDR CC genotype and 95.5% had the VDR CT genotype. In the ESR1 (IVS-397) (PvuII) gene we found that 13.67% had the ESR1 CC genotype, 13.67% ESR1 TT and 68.2% had the ESR1 CT genotype.

**Conclusion:** Patients with cystic fibrosis in the same time have polymorphisms in the genes for calcium metabolism.

**Keywords:**

Cystic fibrosis; vitamin D receptor gene; COL1A1; CTR; ESR1; osteoporosis.



OVERVIEW OF THIAZOLIDINES, NOVEL ANTICANCER MOLECULES:  
DESIGN, SYNTHESIS AND ANTICANCER ACTIVITIES  
(oral presentation)

**Author(s):** KEREM BURAN  
**Mentor(s):** Prof. F. Esra Onen Bayram, MD, PhD  
**Country:** Turkey  
**University:** Yeditepe University, Istanbul  
**Faculty:** Faculty of Pharmacy

*Field of medicine: Pharmacology*

**Introduction:** Cancer is malignant neoplasm and caused by normal cells changing so that grow in an uncontrolled way. Anticancer drugs are investigated to treat cancer cells, the main object of these drugs are to inhibit unregulated cell growth. One of the most promising, biologically active and novel anticancer molecule is five membered thiazolidines<sup>1</sup>. Generally their anticancer activities were investigated against prostate cancer and melanoma<sup>1, 2</sup>.

**Case report:** Anticancer activity of thiazolidine molecules have been discovered recently<sup>1</sup>. Firstly, they discovered by replacing the glycerol backbone in lysophosphatidic acid (LPA). Then, 2-arylthiazolidine-4-carboxylic acid amides (ATCAA) are investigated because of their potent cytotoxic activity against melanoma and prostate cancer. ATCAAs are derivated with carboxylic acid, amides and ester parts to investigate for their antiproliferative activity. Investigations display that this novel anticancer molecules, ATCAAs, strongly inhibited the growth of several cancer cell lines. Moreover, these thiazolidine-base molecules inhibit cancer cell by apoptosis<sup>3</sup>. That is new perspective for thiazolidine-base structures.

**Conclusion:** To sum up, cancer is a fatal diseases and several anticancer drugs are discovered for treatment. One of the novel and promising molecule is thiazolidine-base molecules. These molecules have antiproliferative activity against cancer cell lines especially, melanoma and prostate cancer cell lines. Additionally, they inhibit cancer cells by apoptosis. In that presentation, the discovery of novel thiazolidine-base molecules, their synthesis methods, their active parts against cancer cells, and their anticancer activities will be discussed.

**Keywords:**

Cancer, anticancer molecules, thiazolidine, apoptosis



**ALLELE FREQUENCIES OF HFE, TFR3, AND FPN GENES IN HEALTHY UNRELATED MACEDONIANS**  
(oral presentation)

**Author(s):** MARIJA TODOROVSKA, Aleksandar Murdzev  
**Mentor(s):** Prof. Mirko Spiroski, MD, PhD; Assist. Meri Kirijas, MD;  
**Country:** Macedonia  
**University:** University "Sts Cyril and Methodius University" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Human Genetics*

**Introduction:** Hemochromatosis is treatable genetic disorder that occurs in adults, for which screening tests are available. Hemochromatosis is a condition that leads to accumulation of excess in iron storing. Possible complications occur when iron overload is sufficient to cause organ damage. For example these complications include cirrhosis, primary liver cancer, cardiomyopathy, arthritis and diabetes. Early diagnosis of hemochromatosis can be expected to reduce the burden of the disease. Mutations on HFE, TFR2 and FPN1 genes are responsible for hemochromatosis. The assays for the identification of gene mutations are based on polymerase chain reaction and reverse-hybridization.

The aim of the study was to genotype HFE, TFR3, and FPN genes in the Macedonian population.

**Materials and methods:** Our sample consists of 233 healthy unrelated individuals of Macedonian origin, aged 20-35 years. Blood samples were collected after written consent and DNA was isolated from peripheral blood leukocytes by the phenol-chlorophorm extraction method. The reverse line strip procedure includes three steps: DNA isolation, PCR amplification using biotinylated primers and hybridization of amplification products to a test strip containing allele – specific oligonucleotide probes immobilized as an array of parallel lines. The assay covers 12 mutations in the HFE gene (V53M, V59M, H63D, H63H, Q127H, P160delC, E168Q, E168X, W169X, C282Y, Q283P) 4 mutations in the TFR3 gene (E600X, M172K, Y250X, AVAQ59-597del) and 2 mutations in the FPN gene (N144H, V162del).

**Results:** The highest frequency of HFE, TFR3, and FPN alleles was normal (85.4%), followed with H63D mutation (13.1%). Two mutations were present in lower that one percentage (C282Y and S65C with 0.6% and 0.4%, respectively). We found two combined mutations in very low frequency of 0.2% (H63D-C282Y and H63D-S65C).

**Conclusion:** Several single and combined mutations of HFE, TFR3, and FPN genes were found in 14.6% of healthy unrelated Macedonians.

**Keywords:**

HFE gene; TFR3 gene; FPN gene; alleles; hemochromatosis; Republic of Macedonia.



**ANALYSIS OF EXTREMELY LOW FREQUENCY MAGNETIC POLLUTION FROM 10/0.4 kV TRANSFORMER STATIONS AND SOME EPIDEMIOLOGICAL ANALYZES**

*(oral presentation)*

**Author(s):** ALEKSANDAR KRLESKI  
**Mentor(s):** Prof. Mirko Spiroski, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of electrical engineering and information

*Field of medicine: Radiology*

**Introduction:** Electricity is transmitted through distribution network, and in the same time around them there is an EMF. Epidemiological research of WHO show that prolonged exposure to a magnetic field is linked to increase of the absolute risk of cancer and childhood leukemia.

**Materials and methods:** Analysis of the electromagnetic pollution is made with measuring of the strength of the EMF in apartment above TS. Analysis of the electromagnetic radiation in urban areas was made in 15 locations. For these measurements was used EFA-300 analyzer, characterization is determined through the regime of fast Fourier's analysis. The results are automatically analyzed as a percentage of the maximum allowable levels according ICNRP. The method of epidemiological analysis is based on analysis of theoretical knowledge.

**Results:** The values of the magnetic field in the flat are 9% of the maximum allowable levels according ICNRP. The spectral analysis of 0-2000 Hz show a dominant influence of the basic harmonic of 50 Hz, although the harmonics with range up to 800 Hz have significantly lower values, with increasing frequency the allowed levels according to ICNRP are lower, so they have a huge impact on the evaluation of the cumulative field. EMF in urban areas has a value of 0.1  $\mu$ T to 0.6  $\mu$ T.

Consideration of the extent to which epidemiological studies may be successful in assessing EMF risk is essential when reviewing the literature. Most epidemiological studies reported in the literature have been criticized as having significant limitations include considering variability in exposure intensity, transients, intensity spikes, harmonic of the fundamental frequency, historical exposures, and concomitant exposures to other agents experienced in occupational settings.

On the other hand, the experiments made on animals show electromagnetic field strength much greater than in isolated measurements, so the results can't be compared with them.

**Conclusion:** The electromagnetic pollution on the selected locations in Skopje is within the limits according ICNRP. The epidemiological and experimental studies in this field have shown contradictory results and further researches are needed.

**Keywords:**

EMF, Electromagnetic pollution, epidemiological analysis



## LABORATORY DIAGNOSIS OF DERMATOPHYTE INFECTIONS

(oral presentation)

**Author(s):** HANA STAROVA, Kreshnik Pollozhani, Aida Softic

**Mentor(s):** Assist. Gordana Mirchevska, MD

**Country:** Macedonia

**University:** University "Sts. Cyril and Methodius" of Skopje

**Faculty:** Faculty of Medicine

*Field of medicine: Microbiology and parasitology*

**Introduction:** The dermatophytes are group of closely related fungi that have the capacity to invade keratinized tissue (skin, hair and nails) of humans and other animals to produce an infection, dermatophytosis commonly referred to as ringworm. The etiological agents of the dermatophytoses (dermatophytes) are classified in three genera, Epidermophyton, Microsporum and Trichophyton. The clinical manifestations are as follows: tinea barbae, tinea capitis, tinea faciei, tinea corporis, tinea cruris, tinea pedis, tinea unguium or onychomycosis. The aim of this study is to give overview of the most commonly isolated dermatophytic species in patients with certain type of dermatophytosis in the period of 6 months at the Clinic of Dermatology in Skopje.

**Materials and methods:** The study was conducted in the mycological laboratory at the Clinic of Dermatology in Skopje. Laboratory diagnosis of dermatophytoses is based on microscopic and cultural examination. Culture is valuable adjunct to direct microscopy and is essential for identification of dermatophytic fungi. Primary isolation media for dermatophytes, which we also used in our study, is Sabouraud glucose agar.

**Results:** Out of 580 patients with suspected dermatophytosis in 197 (34%) the dermatophytic infection was confirmed. Onychomycosis (36,5%) is the most frequently diagnosed dermatophytosis followed by tinea pedis (18,7%), tinea corporis (14,7%), tinea capitis (14,7%), tinea cruris (7,1%), tinea manuum (3%), tinea faciei (2%) and tinea barbae (0,5%). The most commonly isolated dermatophytic species which in different prevalences causes dermatophytosis are: Trichophyton rubrum (in 48,2% of the patients) followed by Microsporum canis (19,7%), Trichophyton mentagrophytes var.interdigitale (16,7%), Epidermophyton floccosum (4%), Trichophyton verrucosum (3,5%), Trichophyton mentagrophytes var. mentagrophytes (3%), Trichophyton violaceum (1,5%), Microsporum ferrugineum (1%) and Microsporum gypseum (0,5%) .

**Conclusion:** This study shows that the most frequent dermatophytosis is onychomycosis and anthropophytic dermatophytic species such as Trichophyton rubrum prevails as most frequently isolated dermatophytes. Laboratory confirmation and identification of dermatophytes, triggers of dermatophytoses are highly important for successful antimycotic treatment.

**Keywords:**

Dermatophytoses, dermatophytes, laboratory diagnosis.



**ELECTRONIC MICROSCOPIC CHARACTERISTICS OF ACINAR CELLS OF THE PANCREAS IN RATS  
TREATED WITH FURFURAL**  
(oral presentation)

**Author(s):** NIKOLA TODOROV  
**Mentor(s):** Prof. Snezhana Cekic, MD, PhD  
**Country:** Serbia  
**University:** University of Nish  
**Faculty:** Faculty of Medicine

*Field of medicine: Physiology*

**Introduction:** According to the functional relation between the liver and the pancreas, we expected that furfural, as a hepatotoxic substance, cause the damage of the exocrine pancreas.

**Materials and methods:** The experimental animals (50 male Wistar rats) were treated with furfural. They were divided into 2 groups namely, control and experimental. The experimental animals were treated with furfural. The ultrastructural changes of cells of the exocrine pancreas were examined by electronic microscopy.

**Results:** There appear some changes in the structure of the exocrine pancreatic cells. Namely, nuclear membrane is without changes, and chromatin is condensed. Then, granulated endoplasmic reticulum is dominated, condensed, with prominent ribosomes. Golgi complex is less prominent, mainly, dilated. Smooth endoplasmic reticulum is not so prominent, condensed. Mitochondria are rare, normal membranes, but, oedematous matrix, and often shortened. Zymogenic granules are very rare and pale, hyposecretory.

**Conclusion:** Considering numerous ultrastructural changes, we have come to conclusion that furfural reduces the synthesis and deposits of enzymes in the cells of exocrine pancreas.

**Keywords:**

Acinar cells, pancreas, electronic microscopy, rats, furfural



## SOME EPIDEMIOLOGICAL CHARACTERISTICS IN STROKE PATIENTS

(oral presentation)

**Author(s):** EVGENIJA BANEVA, Gjorgji Kalpak,  
**Mentor(s):** Assist. Dragana Petrovska Cvetkovska, MD  
**Country:** Macedonia  
**University:** University "Sts Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Epidemiology*

**Introduction:** Stroke is a suddenly developing disorder, caused by focal disturbance of cerebral circulation, followed by neurologic deficits of varying intensity and duration longer than 1 hour; mostly occurs in old/middle age. The aim of the study was to analyze some epidemiological characteristics in stroke patients (ischemic stroke/hemorrhage): age, gender, risk factors (artery hypertension, diabetes, hyperlipidemia, smoking, cardiovascular diseases) and mortality.

**Materials and methods:** This is one year period (2008) retrospective study which includes 484 (in total) computer tomography evaluated stroke patients (age 24-88, mean=65.4±12.1; men 265; women 219) and treated at Cerebrovascular Diseases Departement-University Clinic of Neurology in Skopje.

**Results:** : Ischaemic stroke was in majority-89.5% (n=433) vs. hemorrhagic-10.5% (n=51). There are no significant gender differences ( $p>0.05$ ) for the both stroke types (ischemic stroke: men/women 53.8%/46.19% vs. hemorrhagic: 62.75%/37.25%). The age difference is nonsignificant between the both stroke types (ischaemic: mean age 65.75±11.8 vs. hemorrhagic 62.3±13.6) ( $p>0.05$ ). The hypertension appeared in 96.08% hemorrhagic patients vs. 87.76% ischaemic, the difference between grups is nonsignificant ( $p>0.05$ ). The diabetes appeared significantly ( $p<0.05$ ) in 29.1% ischaemic vs. 15.69% hemorrhagic patients. The hyperlipidemia (9.24%-ischaemic; 9.8%-hemorrhagic) and smoking (29.56%-ischaemic; 29.14%-hemorrhagic) are found with insignificant difference between the both grups ( $p>0.05$ ). Cardiovascular diseases are significantly more frequent ( $p<0.05$ ) in the ischaemic type-23.33% than hemorrhagic-7.84%. Mortality is insignificantly found to be frequently present in ischaemic patients-14.78% vs. hemorrhagic-5.88% ( $p>0.05$ ).

**Conclusion:** Ischaemic stroke is frequent than hemorrhagic. The age, hypertension and smoking are leading risk factors in hemorrhagic patients. The age, hypertension, diabetes, smoking and cardiovascular diseases are leading risk factors in ischaemic patients.

**Keywords:**

Stroke, ischaemic, hemorrhagic, risk factors





**GOOD KNOWLEDGE OF HEALTHY LIVING ISN'T ENOUGH TO DECREASE INCIDENCE OF PEDICULOSIS  
CAPITIS IN INDONESIA: A CROSS-SECTIONAL STUDY**

*(oral presentation)*

**Author(s):** FIA AFIFAH MUTIKSA  
**Mentor(s):** Prof. Saleha Sungkar, MD, PhD  
**Country:** Indonesia  
**Faculty:** Faculty of Medicine

*Field of medicine: Epidemiology*

**Introduction:** Pediculosis capitis is a common skin disease in Indonesian children. It causes itch that affects quality of sleeping, feeling ashamed and inferior. Previous studies found that incidence of pediculosis capitis in elementary school students in Indonesia is high. This study aims to find out correlation between pediculosis capitis and the knowledge level of healthy living.

**Materials & methods:** A cross-sectional study was done on a total of 127 children grade four to six at two elementary schools in Taman Rahayu, Bekasi, Indonesia. This study used the total population. Data was obtained by filling a questionnaire. Pediculosis capitis examination was done directly to the subjects by dermatologists. Statistical analysis was done using chi-square test. This study can be statistically significant if the P-value is <0.05.

**Results:** The correlation between pediculosis capitis and the knowledge level of healthy living is not statistically significant ( $p > 0.063$ ).

**Conclusion:** The result of this study shows that knowledge level of healthy living doesn't correlate statistically with incidence of pediculosis capitis. This is possible because good knowledge of healthy living without good healthy living behavior isn't enough to decrease incidence of pediculosis capitis. Step such as promoting healthy living behavior must be done for children in Indonesia that have a high incidence of pediculosis capitis.

**Keywords:**

Pediculosis capitis, knowledge, healthy living



## CHLAMYDIA INFECTIONS

(oral presentation)

**Author(s):** MARIJA JOVANOSKA, Ivona Jovanoska, Petar Sejmenov

**Mentor(s):** Prof. Beti Zafirova Ivanovska, MD, PhD

**Country:** Macedonia

**University:** University "Sts Cyril and Methodius" of Skopje

**Faculty:** Faculty of Medicine

*Field of medicine: Epidemiology*

**Introduction:** Chlamydia is the most commonly diagnosed Sexually Transmitted Infection. It is caused by the bacterium *Chlamydia trachomatis* - CT and is treated with a simple course of antibiotics. If undetected and left untreated, it can ultimately lead to pelvic inflammatory disease, ectopic pregnancy and infertility. In particular, sexually active young people aged between 16 and 24 are at highest risk. In 2008, WHO estimated that 17.3 million adults were infected (3,9%female and 3,8%male) and the total number of new cases was estimated to be 20.6 million cases (37,1/1000 female and 54,2/1000 male).

**Materials and methods:** This is retrospective analysis of data derived from General report from the Sector for Communicable Diseases, Control and Prevention, Institute of Public Health, Republic of Macedonia-IPHRM.

**Results:** A total number of 253 cases of Infections with Chlamydia were reported in 2012 in Macedonia. All of the registered infections were in female 253(100%), and no infected male reported. The highest number of cases were in female at the age group of 20-29years (N=130; 51,4%) whereas the minimal at the age group of 9-14years (N=1, 0.4%). No case was reported below 9 and over 60years. According to the statistics figures Chlamydia infections reported 7 out of 35 Centers of Public Health who provide reports to the IPHRM with the highest number registered in Stip 153 and Veles 62 cases. No death case due to infection with Chlamydia was reported in Macedonia.

**Conclusion:** The analysis shows that in Macedonia all registered cases were in female, but the world wide statistic is much higher with both genders almost equally affected. Due to serious consequences and probably much higher unregistered numbers in our country, the awareness of this infection between the young and sexually active people should increase and infections regularly reported for the appropriate prevention and treatment taken in timely efficient manner.

**Keywords:**

Chlamydia trachomatis; infections.



**SCARLET FEVER EPIDEMIOLOGY IN 2012 - MACEDONIA**

*(poster presentation)*

**Author(s):** PETAR SEJMENOV, Marija Jovanoska  
**Mentor(s):** Prof. Beti Zafirova Ivanovska, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Epidemiology*

**Introduction:** By the middle of the 19th century scarlet fever has returned as the leading cause of death in children. Scarlet fever is an acute contagious disease caused by an infection with the group A Streptococcus (GpAS) bacteria. GpAS produces a big variety of haemolysing toxins, like erythrogenic toxins which are the main pathophysiological mechanism for causing the rash typical for scarlet fever.

**Materials and methods:** The analysis was based mainly on the data published in the "General report from the Sector for Communicable Diseases Control and Prevention", Institute of Public Health, Republic of Macedonia.

**Results:** A total number of 389 cases were reported in 2012 in the Republic of Macedonia. Total registered cases of scarlet fever in men and women were, 221 (55,53%) and 177 (44,47%), respectively, with no significant difference ( $p>0,05$ ). The highest number of registered cases was observed in children at the age group of 0-9 years ( $N= 353-88,69\%$ ). Least amount of cases were reported within the age group of 20 and above ( $N=13-3,27\%$ ). The seasonal index showed the disease peaking in April (123,62%)-May(202%) and December(156,78%)-January(141,71%), while there was a decreasing number of registered cases in the other months of the year. Most affected cities were Skopje and Prilep, with 205 and 111 registered cases, respectively. There were no deaths associated with scarlet fever in the Republic of Macedonia.

**Conclusion:** Major factors related to scarlet fever in this study were: age, period of the year and area of inhabitation. Awareness of these epidemiological data may help public health institutions and doctors in implementing measures for prevention and control of the disease.

**Keywords:**

Scarlet fever, epidemiology, Streptococcus group-A



TITLE USE OF ANTIBIOTICS WITHOUT A PHYSICIAN RECOMMENDATION FOR THE STUDENT  
POPULATION IN SHTIP, R. MACEDONIA

(poster presentation)

**Author(s):** ANGJEL STOJANOVSKI, Bojan Petrov, Jordancho Jordanovski

**Mentor(s):** Assist. prof. Gordana Panova, MD, PhD; B.Sc. Pharm. spec. Biljana Nastova;

**Country:** Macedonia

**University:** University "Goce Delchev" of Shtip

**Faculty:** Faculty of Medicine

*Field of medicine: Pharmacology*

**Introduction:** Self-medication with antibiotics is concerning in the whole world, even more in developing countries, where this type of drugs are often available even without prescription. The aim of the study is to assess knowledge and behavior towards self-medication with antibiotics among students population and compare frequency of antibiotics self-treatment among medical students and non-medical students.

**Materials and methods:** Data were collected by interviewing 300 randomly selected students from medical and non-medical faculties in Shtip. The questionnaire was anonymous and contained questions opened and closed types. Significant difference frequency of antibiotics self-medication was assessed using the Chi square test ( $p=0,05$ ).

**Results:** 95 % of respondent filled out and return the questionnaire. Prevalence of antibiotic use without prescription in the previous 6 months was 14 % among medical students and 45 among nonmedical students. Respiratory problems were the most frequent indication in both groups 66 % and 87. Cefalexin was the most commonly used antibiotic among both groups. The most frequent reason for self-medication among medical students was their knowledge 73% and prior experience was the most common reason among non-medical students 52%.

**Conclusion:** The results show a statistically significant difference in use of antibiotics without prescription among medical and non-medical students. Non-medical students resort more antibiotics self-medication what can be attributed to the insufficient information about antibiotic resistance.

**Keywords:**

Antibiotics, Self-medication, Cefalexin, students



**ESTRADIOL LEVEL AND SERUM LIPID PROFILE IN WOMEN DURING THEIR DEGENERATIVE LIFE**

*(poster presentation)*

**Author(s):** SARA BLAZHEVSKA  
**Mentor(s):** Prof. Sunchica Petrovska, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Biochemistry**

**Introduction:** Menopause is often accompanied by degenerative processes such as arteriosclerosis that suggest an acceleration of aging triggered by estrogen lack. Diseases of the cardiovascular system, especially of the coronary blood vessels, are among the leading causes of death in menopausal women. The present study was designed to evaluate serum lipids level (HDL-CH, LDL-CH, LDL-CH/HDL-CH index of arteriosclerosis, triglycerides, and total cholesterol) in women during menopause.

**Materials and methods:** The study comprised a number of 80 women divided into three groups. The control group included 26 healthy women in their reproductive period. The perimenopausal group consisted of 32 women, with FSH level under 25mU/ml, and with anamnestic data of irregularity of menstrual cycle. The postmenopausal group encompassed 22 women, regarding lack of cycle for more than 12 months. Hormone level was determined with RIA method. Lipid concentration was determined with standard colorimetric-spectrophotometric method.

**Results:** Statistical analysis has shown that there was a significant increase of total cholesterol, triglycerides, LDL-CH, LDL-CH/HDL-CH index, and significant decrease of HDL-CH and estradiol in both perimenopausal and postmenopausal examines in comparison with the control group( $p < 0,001$ ).

**Conclusion:** This study favours the view that decrease in estradiol level and associated increase in LDL-CH, LDL-CH/HDL-CH index, triglycerides, total cholesterol and decrease of HDL -CH seen in perimenopausal and postmenopausal women may be responsible for the increased risk of atherosclerotic complications in women during menopause.

**Keywords:**

Estradiol; menopause; lipid profile.



**POOR KNOWLEDGE OF CLEAN AND HEALTHY LIVING BEHAVIOR IN INDONESIA  
AND ITS INFLUENCING FACTORS**

*(poster presentation)*

**Author(s):** FIA AFIFAH MUTIKSA  
**Mentor(s):** Prof. Saleha Sungkar, MD, PhD  
**Country:** Indonesia  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Public Health**

**Introduction:** Clean and Healthy Living Behavior or Perilaku Hidup Bersih dan Sehat (PHBS) is a national program of Indonesia's Ministry of Health which aims to improve health in Indonesia. PHBS at schools is a collective behavior of students, teachers, and the school's community that came to be as a result of learning, which aims to prevent disease, improve health, and actively build a healthy environment. Previous studies found that elementary students in the Jakarta's suburbs have poor knowledge about PHBS. This study aims to find out the correlation between the knowledge level of PHBS and demographic characteristics.

**Materials and methods:** A cross-sectional study was done on a total of 127 elementary school students grade three to six at two elementary schools in Taman Rahayu, Bekasi, Indonesia. This study used the total population. Data about knowledge level of PHBS, sex, and grade level were obtained by filling a questionnaire. Data were analyzed using chi-square test. It can be statistically significant if the P-value is <0.05.

**Results:** There was a correlation between the knowledge level of PHBS and sex ( $p=0,028$ ) and grade level ( $p<0.001$ ). The knowledge level of PHBS is divided into three groups, there were good knowledge (24,4%), less knowledge (38,6%), and poor knowledge (37%).

**Conclusion:** The result of this study shows that demographic characteristics is a factor that correlates with low knowledge level of PHBS. This is possible because generally boys are less interested in the government's health programs, thus less understanding. Steps such as introducing PHBS and promoting healthy lifestyle must be done to increase knowledge level of PHBS.

**Keywords:**  
PHBS, sex, student

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## **PLENARY SESSION III**

**Internal medicine, Paediatrics, Dermatology, Infectious diseases,  
Psychiatry, Sports medicine**

**Date:** May 13<sup>th</sup> 2013

**ORAL PRESENTATIONS**

**Start time: 8:30-10:10**

**POSTER PRESENTATIONS**

**Start time: 10:10-10:50**

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## **List of presentations in plenary session III:**

- 1. MACEDONIAN BONE MARROW DONOR REGISTRY (MKBMDR)  
AZRA GICICH**
- 2. OUR FIRST EXPERIENCE WITH INTRACORONARY TRANSPLANTATION OF AUTOLOGOUS  
BONE MARROW STEM CELLS IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION  
ELMA KANDIC**
- 3. CARDIAC SOURCE OF EMBOLISM  
IGOR TAGASOVSKI**
- 4. FOOD ADDITIVE ALLERGY - FACT OR FICTION?  
ELMEDINA ASANI**
- 5. SUBSTANCE USE IN STUDENTS WITH HIGH LEVELS OF ANXIETY  
VALENTINA ARSOVA**
- 6. NEPHROCALCINOSIS IN MACEDONIAN CHILDREN: ETIOLOGY, GENETICS AND OUTCOME  
TOMISLAV JOVANOSKI**
- 7. ETIOLOGY OF INJURING AND METHODS OF PROVIDING FIRST AID AT WRIST INJURY  
GRIGORIJE JOVANOVIC**
- 8. MORBUS CUSHING: CASE REPORT  
ARMEND ADEMAJ**
- 9. IMMUNOLOGICAL INVESTIGATION OF PATIENTS WITH ORAL HERPES SIMPLEX-1  
INFECTION  
MARIJA MILETIC**
- 10. DIFFICULTIES IN MANAGING SMALL CHILDREN WITH TYPE 1 DIABETES MELLITUS  
ANGELA ILIEVSKA**
- 11. OXIDATIVE STRESS RELATED TO SPORT INTENSITY  
DEJANOVA SANDRA**
- 12. PRIMARY HYPERPARATHYROIDISM CAUSE OF THE RENAL DYSFUNCTION  
METODIJA SEKULOVSKI**
- 13. ANTIBIOTIC-ASSOCIATED DIARRHEA CAUSED BY C. DIFFICILE  
STOJANA TRICHKOVSKA**





**MACEDONIAN BONE MARROW DONOR REGISTRY (MKBMDR)**

*(oral presentation)*

**Author(s):** AZRA GICICH  
**Mentor(s):** Prof. Mirko Spiroski, MD, PhD; Assist. Meri Kirijas, MD;  
**Country:** Macedonia  
**University:** University "Ss Cyril and Methodius" in Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Haematology*

**Introduction:** The Macedonian Bone Marrow Donor Registry (MKBMDR) started its activity in 2010. The goal is to establish, maintain and improve the system of carrying out bone marrow and peripheral hematopoietic stem cell transplantations for patients with blood cancer and life-threatening diseases, from voluntary unrelated donors. Since 2012 it has improved and multiplied its work. MKBMDR is a member of Bone Marrow Donors Worldwide (BMDW). Voluntary donors must be healthy, at the age of 18-55 and willing to save a life.

**Materials and methods:** DNA was isolated from peripheral white blood cells with standard phenol-chloroform method from 745 unrelated, volunteer donors with signed informed consent. HLA typization of the donors was performed with Luminex xMAP technology. The results of the HLA typization were entered in the Prometheus software where all data about the donors are kept. It provides search for unrelated donors and communication with other world registries.

**Results:** A total number of 745 donor signed consents to voluntary bone marrow donation were deposited in the MKBMDR from which 149 donors are deposited in the BMDW. MKBMDR had become a member of European Marrow Donor Information System (EMDIS).

**Conclusion:** The cure from blood cancer is the hands of an ordinary man. People need to be motivated and educated in that purpose. It's voluntary, free and lifesaving. It may be as few as several months or several years after being tested before the potential donors receive the call to help save a life. In fact, they may never be called as a suitably matched donor. The only way to know is by taking the first step to be tested! What greater gift can one human give to another one than that of hope?

**Keywords:**

Hematopoietic stem cells; transplantation; Macedonian Bone Marrow Donor Registry.



**OUR FIRST EXPERIENCE WITH INTRACORONARY TRANSPLANTATION OF AUTOLOGOUS BONE MARROW STEM CELLS IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION**

*(oral presentation)*

**Author(s):** ELMA KANDIC, Avdi Murtezani, Anamarija Jovanovska, Elena Gjorchevska

**Mentor(s):** Assist. Hristo Pejkov, MD; Prof. Borche Georgievski, MD, PhD

**Country:** Macedonia

**University:** University "Sts. Cyril & Methodius" of Skopje

**Faculty:** Faculty of Medicine

*Field of medicine:* **Cardiology, Haematology**

**Introduction:** We report the early results of our first case of intracoronary administration of autologous bone marrow-derived stem cells after acute myocardial infarction (MI).

Our patient was randomized for the group A (A early treatment with intracoronary injection 21–42 days after MI), according the criteria of Myocardial Stem Cell Administration After Acute Myocardial Infarction (MYSTAR) Study.

**Case Report:** One patient with the extensive anterior, ST elevation, acute myocardial infarction (AMI), was treated by primary angioplasty. Left ventricular ejection fraction (LVEF) before transplantation was 35% and wall motion score index 1,77.

Bone marrow mononuclear cells were administered by intracoronary infusion 40 days after the infarction in the infarct related artery. Bone marrow was harvested by multiple aspirations from posterior cristae iliacae under general anesthesia, and under aseptic conditions. After that, cells were filtered, centrifuged and resuspended in serum-free culture medium, and next day infused through the catheter into the infarct-related artery.

There were no major cardiac events after the transplantation during further follow-up period (30-120 days after infarction). Control MPS for the detection of ischemia showed improvement in myocardial perfusion in our patient 4 and 48 months after intracoronary administration of stem cells. Echocardiographic assessment in this patient also showed improvement of global left ventricular function three months after the infarction (LVEF = 44% and WMSi = 1,44). The NYHA function class also improved (from NYHA 2 into NYHA 1).

**Conclusion:** The intracoronary transplantation of autologous bone marrow stem cells, in this case, improved the myocardial function.

**Keywords:**

Autologous Bone Marrow Stem Cells, Ejection Fraction, Anterior Myocardial Infarction, Myocardial Perfusion Scan.



## CARDIAC SOURCE OF EMBOLISM

(oral presentation)

**Author(s):** IGOR TAGASOVSKI  
**Mentor(s):** Prof. Ljubica Georgievska Ismail, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Cardiology**

**Introduction:** Stroke secondary to cardiac source of embolism is a loss of brain function caused by blood clots that develop in the heart and travel to the brain. Cardiac source of embolism accounts for approximately 20% of ischemic strokes each year. More than 20 specific cardiac disorders have been implicated in leading to brain embolism. Dividing cardiac sources of emboli can be high risk sources (atrial fibrillation, left ventricular dysfunction, valvular heart disease and cardiac tumors) and low risk (certain valvular pathology, paradoxical embolism) sources.

**Case report:** We present a 19-year old patient who was admitted to the Cardiology Clinic in Skopje on the suspicion of cardioembolic reasons, after 2 weeks spent at the clinics for neurosurgery and neurology, where she was diagnosed as a ischemic stroke with hemiparesis on the right side of the body and dysphasia treated with antiedematous and anxiolytic therapy. The cardiologist was consulted after 3 days continuous febricity (37.9 C) as endocarditis was suspected. At Cardiology Clinic transthoracic echocardiography was done and vegetation was seen on the mitral valve. In addition prolapsus of mitral valve was diagnosed and patent foramen ovale (PFO) was suspected. After intensive antibiotic and anticoagulation treatment patient was released without vegetation and with normal function of the body; hence, yearly controls at cardiology specialist were ordered. On the yearly control at Cardiology Clinic transthoracic and transesophageal echocardiography were done, whereby vegetation along with extensive mitral regurgitation was again diagnosed along with PFO. The patient was advised to see a cardiac surgeon for potential valve replacement to remove the cardiac source of embolism.

**Conclusion:** Cardioembolic strokes have a worse prognosis and produce larger and more disabling strokes than other ischemic stroke subtypes. However cardioembolic stroke is largely preventable. Once stroke due to cardiac embolism has occurred, the likelihood of recurrence is relatively high for most cardioembolic sources; therefore, secondary prevention is very important.

**Keywords:**

Cardioembolic stroke, endocarditis, patent foramen ovale



## FOOD ADDITIVE ALLERGY - FACT OR FICTION?

(oral presentation)

**Author(s):** ELMEDINA ASANI, Adelina Dalipi, Saranda Ristemi, Amir Ajdarovski, Sabir Sulejman

**Mentor(s):** Prof. Margareta Ballabanova, MD, PhD

**Country:** Macedonia

**University:** University "Sts. Cyril and Methodius" of Skopje

**Faculty:** Faculty of Medicine

*Field of medicine: Allergology*

**Introduction:** There are thousands of agents that are intentionally added to the food that we consume. These include preservatives, stabilizers, conditioners, thickeners, colorings, flavorings, sweeteners, antioxidants, etc. Yet only a surprisingly small number have been associated with hypersensitivity reactions. Amongst all the additives, FD&C dyes have been most frequently associated with adverse reactions. Tartrazine is the most notorious of them all; however, critical review of the medical literature and current Scripps Clinic studies would indicate that tartrazine has been confirmed to be at best only occasionally associated with flares of urticaria or asthma. There is no convincing evidence in the literature of reactivity to the other azo or nonazo dyes. This can also be said of BHA/BHT, nitrites/nitrates and sorbates.

**Materials and methods:** We tested 40 patient and the method that we used was patch testing. We tested for 22 different food additive and among them where: Amaranth, aspartame, azorubine, benzoic acid, brilliant black butylhydroxyanisole (BHA), butylhydroxytoluene (BHT), carmine, cochineal red, sodium glutamate, sodium formiate, sodium diphosphate, sodium alginate, saccharin, quinoline yellow, pectin, patent blue-VF, formic acid, erythrosin-B, tartrazine, sorbic acid, sodium nitrate. We read the result after 48 hours. We had 20 patient in the control group, 10 patient with history of medicament allergy and 10 with documented food allergy.

**Results:** From the 40 patient that we tested only two (5%) had a positive result which included erythema and pruritus. One patient was positive for tartrazine and the other for sodium diphosphate.

**Conclusion:** We suggest that the study continues in a larger number of patients, giving the results that we received.

**Keywords:**

Food additives, allergy, erythema, urticaria, azo or nonazo dyes



**SUBSTANCE USE IN STUDENTS WITH HIGH LEVELS OF ANXIETY**  
(oral presentation)

**Author(s):** VALENTINA ARSOVA  
**Mentor(s):** Assist. prof. Sanja Manchevska, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Psychiatry*

**Introduction:** The aim of the study was to estimate the prevalence of high anxiety and substance use in medical students on the beginning of their education.

**Materials and methods:** A cohort of second year students (174) with mean age of 20 years, from Medical Faculty in Skopje were given self-rating questionnaires which consisted of substance (illicit drugs, alcohol, nicotine, caffeine and benzodiazepine) use questionnaire, Beck Anxiety Inventory (BAI) and the Beck Depression Inventory (BDI). Total of 90% (61 males and 96 females) of the students anonymously filled in and returned the questionnaires. Beck Anxiety Inventory and Beck Depression Inventory are standardized psychiatric instruments for the evaluation of the level of anxiety and the intensity of depressive symptoms in non-clinical as well as clinical population.

**Results:** Mean BAI scores were  $13.7 \pm 10.8$ , and mean BDI scores were  $8.4 \pm 0.7$ . 15% of all students showed high levels of anxiety ( $BAI > 25$ ). 6.3% of all students showed symptoms of clinically manifest depression ( $BDI \geq 20$ ). 72.4% of all students and 78.3% of students with high levels of anxiety have consumed alcohol ( $p > 0.05$ ). Smokers were 25.2% of all students and 37.5% of high anxiety students ( $p > 0.2$ ). 82% of the cohort and 91.7% of highly anxious students drank coffee every day ( $p > 0.05$ ). 14.9% of the cohort and 43.5% of the high anxiety group have used sedatives ( $2 \times = 10.749$ ,  $df = 1$ ,  $p = 0.001$ ). Most irritating problems that were pointed by the students were unsatisfactory social life and lack of opportunities, bad quality of education system and disappointment.

**Conclusion:** Students with high anxiety levels used substances, especially sedatives, more frequently than students with lower levels of anxiety. More attention should be paid to students with high anxiety levels and a student counselling service needs to be established within University facilities in R.M.

**Keywords:**

Anxiety, students, BAI, BDI, student counselling service



**NEPHROCALCINOSIS IN MACEDONIAN CHILDREN: ETIOLOGY, GENETICS AND OUTCOME**

*(oral presentation)*

**Author(s):** TOMISLAV JOVANOSKI, Darko Daskalov  
**Mentor(s):** Prof. Velibor Tasikj, MD, PhD  
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**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Paediatrics*

**Introduction:** Renal tubular disorders and some extrarenal diseases (primary hyperoxaluria, parathyroid adenoma) may present with nephrolithiasis or nephrocalcinosis. Many of these diseases have genetic background and therefore pediatric patients with nephrocalcinosis should undergo extensive biochemical, metabolic and genetic evaluation in order to establish correct diagnosis, tailor appropriate management and perform prenatal diagnosis.

**Materials and methods:** In order to establish etiological diagnosis, genetics and to analyze the outcome of Macedonian children with nephrocalcinosis all children who had radiological or ultrasound evidence for bilateral nephrocalcinosis were included in this study.

**Results:** During the period 1993-2013 there were 38 children who presented with nephrocalcinosis. In 23 children the primary diseases was renal tubulopathy: distal renal tubular acidosis (dRTA) (12) - complete form 8, incomplete form 4; familial hypomagnesemia with hypercalciuria and nephrocalcinosis (4); Bartter syndrome (4); Hypophosphatemic rickets as a complication of therapy (3). Extrarenal disorders: primary hyperoxaluria (4), Leprecheunism (1), idiopathic infantile hypercalcemia (4), parathyroid adenoma (1), sarcoidosis (1). The etiology was not clarified in four children (one with familial low renin hypertensive syndrome and in three with normocalcemic hypercalciuria). In 18 children the diagnosis was confirmed with mutational analysis of the respective gene(s). There were six deaths: dRTA (3), primary hyperoxaluria (1), neonatal Bartter syndrome (1), Leprecheunism (1). One child had mildly impaired glomerular filtration rate, two children progressed to terminal uremia and one was transplanted.

**Conclusion:** Our study revealed that dRTA is still the most common tubulopathy leading to nephrocalcinosis in Macedonian children. The factors associated with unfavorable outcome were non-compliance with the treatment, complication of primary metabolic disorder and progressive renal insufficiency.

**Keywords:**

Nephrocalcinosis, children, etiology, outcome



## ETIOLOGY OF INJURING AND METHODS OF PROVIDING FIRST AID AT WRIST INJURY

(oral presentation)

**Author(s):** GRIGORIJE JOVANOVIĆ, Predrag Milicević, Jelena Kosjer

**Mentor(s):** Srdjan Ninković, Vladimir Harhai

**Country:** Serbia

**University:** University of Novi Sad

**Faculty:** Faculty of Medicine

*Field of medicine:* **Emergency medicine**

**Introduction:** Wrist (art. Radiocarpale) is classified in mobile compound arm joints (art. Composita). The most frequent injuries of this joint are: contusion (contusio), dislocation (distorsio), sprain (luxatio), fracture (fractura) and combined injuries. In immobilization of this joint are used standard means (Cramer tracks and slight splints) improvised items.

**Aim of the study:** The aim is survey and analysis of injuring etiology and the first aid in wrist injury in Clinical Centre Vojvodina in the period 1 June 2008 - 1 November 2008.

**Material and methods:** Prospective study is applied encompassing 147 male patients and 3 female patients aged from 30 to 70, living in South Backa District, checked-up in the emergency ward of Urgent surgery, Clinical Centre Vojvodina. In data collection concerning injuring etiology is used questionnaire including 13 question. Intension of pain is estimated according to equivalent-visual scale of pain.

**Results:** Injuring in 108 (72%) patients included self-injuring and in 42 (28%) injuring from the other person. Personal vehicle is used in 105 (70%) cases of transportation of patients to Clinical Centre Vojvodina and ambulance in 45 (30%) cases. Immobilization is applied in 63 (42%) patients. Without immobilization are accepted 87 (58%) patients. Pain is not registered in 39 (26%) patients. Twenty (8%) patients estimated their pain with mark 3, 21 (14%) with mark 5, and 48 (32%) with mark 10. Swelling is registered in 29 (86%) patients and absence of swelling-in 21 (14%) patients.

**Conclusion:** Complete success in treatment of wrist injuries in great deal depends on adequately applied first aid. Mutual cooperation of patient, general practitioner, specialist in urgent medicine, surgeon and physiatrist is the only way to offer space for successful treatment and arrival to the level of activity before injury.

**Keywords:**

Wrist injury, first aid, etiological factors, wrist, immobilization



## MORBUS CUSHING: CASE REPORT

(oral presentation)

**Author(s):** ARMEND ADEMAJ, Argjent Muca  
**Mentor(s):** Prof. Tatjana Milenkovicj, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Endocrinology*

**Introduction:** Cushing's disease is characterized by increased secretion of ACTH from the pituitary gland caused by pituitary adenomas, hypercortisolemia and bilateral hyperplasia of the adrenal cortex, while Cushing Syndrome is related with excess of glucocorticoids caused for any other reason. The most common cause of Morbus Cushing is adenoma in the pituitary gland (70%). Symptoms of MC are not always matched with CS. Most common symptoms include weight gain, increased blood pressure, irritability, excess hair growth (women), red-face, round face, irregular menstrual cycles. While less common symptoms include: insomnia, acnes depression, bruising, diabetes mellitus etc.

**Case report:** The patient M.D, a female, 36 years old from Skopje comes to the Endocrinology Clinic with the following complaints: irregular menstrual cycles to amenorrhea, high blood pressure, expressed hair growth in face, acnes and general weakness (suspected for Cushing). The patient also suffers with HTA (hypertensional crises and often epistaxis), hydronephrosis with nephrolithiasis and acne vulgaris.

In our clinic were made the following tests:

- 1.Measurement of cortisol in the blood which was in favor of Cushing (910 mol/l)
- 2.Daily nocturnal cortisol rhythm that was disorganized.
- 3.Fast dexamethasone test caused no suppression of plasma cortisol > 50% that indicate the MC and send off CS.
- 4.MRI of the pituitary found a macroadenoma (1.5 cm), which confirmed us the diagnosis of Morbus Cushing. The other tests made are: lipid test (hyperlipidemia, hypercholesterolemia), DEXA (bone densitometry had a diagnosis of osteoporosis), glucose was above the upper limit and HbA1c is 9,8%.

**Conclusion:** Our goal is to clarify how to distinguish MC and CS. We use the above tests but the gold standard is 8.0 mg dexamethasone test at night where suppression of plasma cortisol was more than 50% that will confirm MB

**Keywords:**

Morbus Cushing (MC), Cushing Syndrome (CS)





**IMMUNOLOGICAL INVESTIGATION OF PATIENTS WITH ORAL HERPES SIMPLEX-1 INFECTION**  
(oral presentation)

**Author(s):** MARIJA MILETIC, Nikola Miletic  
**Mentor(s):** Prof. Meliha Shehalic, MD, PhD  
**Country:** Kosovo  
**University:** University of Prishtina  
**Faculty:** Faculty of Dentistry

*Field of medicine: Dermatology*

**Introduction:** There are two types of Herpes simplex virus. Type I causes infection with oral manifestations, and type II is the cause of genital herpes. The immune system plays an important role in pathogenesis of these infections. The most important mechanism by which antibodies act as a defence against the virus is neutralization. It participates with immunoglobulins IgG, IgA and IgM, which probably prevent the virus from connecting cell receptors and penetration into the cell, also they can disable the rejection of the viral envelope.

**Materials and methods:** The aim of this study was to examine closer laboratory characteristics of herpes simplex virus infections with special reference to the determination of the level of immunoglobulins IgG, IgA and IgM in the acute phase and convalescence phase of these infections. Laboratory tests were performed in 50 patients with herpetic stomatitis and 37 with herpes simplex infection, which are certainly verified in the differential - diagnostic procedure. The control group for testing the concentration of immunoglobulin constituted the 37 respondents, approximately the same age as the sufferers.

**Results:** The analysis of the levels of immunoglobulins in the serum of the patients with herpetic stomatitis determined the decrease in the value of IgA, IgM and IgG in the acute phase of the disease, compared to the control group, while in the convalescence phase we observe an increase in the concentration of the studied class of immunoglobulins. Conversely amount of immunoglobulins in patients with recurrent herpes has increased in the acute and the recovery phase.

**Conclusion:** It was observed that severe forms of herpetic stomatitis are followed with low values of these three classes of immunoglobulins, as indicated by our results. In the phase of convalescence, the amount of immunoglobulins is significantly increased, which is an important indicator of intensified immune response and its potential. However, for recurrent herpes infection, despite the presence of circulating antibodies to a much higher concentration than in the control group, the manifestations of the disease do occur.

**Keywords:**

HSV, immunoglobulins, infection



**DIFFICULTIES IN MANAGING SMALL CHILDREN WITH TYPE 1 DIABETES MELLITUS**

*(poster presentation)*

**Author(s):** ANGELA ILIEVSKA, Izabela Smileska, Martina Dimitrova, Marina Puleska,

**Mentor(s):** Assist. Elena Shukarova, MD

**Country:** Macedonia

**University:** University "Sts. Cyril and Methodius" of Skopje

**Faculty:** Faculty of Medicine

*Field of medicine:* **Endocrinology, Paediatrics**

**Introduction:** Type 1 Diabetes Mellitus (DM) is one of the commonest endocrine metabolic disorders that affect patients below the age of 20 years. It is caused by deficiency of insulin secretion mostly due to autoimmune destruction of pancreatic  $\beta$ - cells. It has been estimated that proportion of type 1 DM is 10% of all cases with diabetes, affecting over 15 million patients in the world. However, incidence of DM in children smaller than 6 years is constantly rising according many epidemiologic data. Recognizing and treating a small child with DM is a tempting task, demanding skillful and dedicated team.

**Materials and methods:** We present 4 female patients, aged 2-6years, hospitalized with common symptoms: polydipsia, polyuria, polyphagia, Kussmaul type of breathing, weight loss. Clinical presentation was variable in all four patients- ranging from mild to severe. Hyperglycemia and glucosuria was present in all patients. However, ketonuria was less manifest than in older children. Elevated HbA1C was present in all children, representing the longevity of elevated blood sugar in the last three months..

**Results:** Biochemical analyses demonstrated glycemia levels from 12 to 30 mmol/l. Ketonuria was present in the quantity of 1 to 2 +. Insuline autoantibodies were positive in three of the patients and negative in one. After initial intravenous treatment, all the patients were given intensive insulin regimen with bolus and basal insulin, as well as recommendations for caloric intake.

**Conclusion:** There are many specifics in detecting and treating small children with DM. First, clinical presentation is more difficult to diagnose - since most of the children still uses diapers, it is difficult to see the first signs of poliuria; ketonuria is less evident and therefore breeding difficulties present later when the child become more dehydrated. In planning insulin regimen, small boluses before main meals with basal insulin should be implemented instead of placement larger doses twice daily. Also, it is difficult to persuade small children to stick to the proposed caloric intake. The major concern is hypoglycaemia that can leave consequences in mental health in smaller children. Therefore a meticulous training of the whole family is needed for all aspects of the disease.

**Keywords:**

Diabetes Mellitus, DM, Sugar Disease, Endocrinology, University Clinic of Pediatrics, Skopje, Republic of Macedonia.



## OXIDATIVE STRESS RELATED TO SPORT INTENSITY

(poster presentation)

**Author(s):** SANDRA DEJANOVA, Nastev I, Trichkovska S, Efremov Lj, Avramovska M.

**Mentor(s):** Prof. Beti Dejanova, MD, PhD

**Country:** R.Macedonia

**University:** University "Sts Cyril and Methodius" of Skopje

**Faculty:** Faculty of Medicine

*Field of medicine: Sports medicine*

**Introduction:** During exercise, oxidative stress (OS) may appear due to insufficient adjustment of sport intensity or lack of antioxidant defense.

**Materials and methods:** A number of 23 soccer players (SP) at age of  $20 \pm 3$  years old, and 22 age matched control subjects (C) were investigated. Study design was performed in 2 sessions: I – treadmill performance (exposure to moderate exercise considered as 50%  $VO_{2max}$ ; and II – match performance (exposure to high intensity exercise with “maximal intermittent exercise” considered as 70%  $VO_{2max}$ ). The blood samples were taken: before treadmill (BT); after treadmill (AT); before match (BM) and after match (AM). Examined parameters were reactive oxygen metabolites (d-ROMs) for hydroperoxyde measurement by the spectrophotometric method - Diacron, Italy; lipid peroxidation (LP) for cell membrane impairment by free radicals, by flourimetric method (by malonyldialdehyde -MDA); nitric oxide (NO) by method of nitrite enzyme reduction (OXIS, USA). The aim of our work was to optimise the oxidative stress markers in soccer players (SP) during moderate and high intensity exercise.

**Results:** D-ROMs showed higher value AT: in SP,  $286 \pm 30$  UCarr ( $p < 0.05$ ) and in C,  $295 \pm 25$  UCarr ( $p < 0.01$ ); as well as AM in SP,  $357 \pm 49$  UCarr ( $p < 0.05$ ). LP value was increased in SP: AT,  $4.1 \pm 0.8$   $\mu\text{mol/L}$  ( $p < 0.05$ ) and AM,  $4.5 \pm 0.9$   $\mu\text{mol/L}$  ( $p < 0.05$ ). NO showed doubled value AT,  $98 \pm 49$   $\mu\text{mol/L}$  ( $p < 0.05$ ) and even 3 times increased value AM,  $130 \pm 68$   $\mu\text{mol/L}$  ( $p < 0.01$ ).

**Conclusion:** Moderate-intensity aerobic exercise augments endothelium - dependent vasodilatation through the increased production of NO. High intensity exercise possibly increases OS, particularly in not trained subjects. OS parameters may be useful markers for better assessment and evaluation of the training program in sport disciplines.

**Keywords:**

Oxidative stress; sport intensity.



**PRIMARY HYPERPARATHYROIDISM CAUSE OF THE RENAL DYSFUNCTION**  
(poster presentation)

**Author(s):** METODIJA SEKULOVSKI,; Lubomir Spassov, MD, PhD; Hristo Lazarov, MD; Velislava Dimitrova, MD; Anastasija Trifunova, Monika Peshevska

**Mentor(s):** Assoc. prof. Boryana Kiperova, MD, PhD

**Country:** Bulgaria

**University:** University "St. Kliment Ohridski" of Sofia

**Faculty:** Faculty of Medicine

*Field of medicine:* **Internal medicine**

**Introduction:** 72 - year old female patient is admitted in hospital with kidney malfunction and arterial hypertension.

**Case report:** We present clinical case of 72 years old patient, which came into the clinic with kidney malfunction and arterial hypertension.

After tests for patient establishes primary hyperparathyroidism due to tumor of the parathyroid gland to the right.

**Conclusion:** Primary hyperparathyroidism is characterized by secretion of parathyroid hormone from the autonomous overgrown parathyroid glands, which are not responding adequately to physiological serum calcium concentration.

The annual incidence rate reached 3 per 10 000, the frequency distribution of the general population is 1 in 1,000, or 0.1%.

**Keywords:**

Primary hyperparathyroidism, tumor of the parathyroid gland, renal dysfunction.



**ANTIBIOTIC-ASSOCIATED DIARRHEA CAUSED BY C. DIFFICILE**

*(poster presentation)*

**Author(s):** STOJANA TRICHKOVSKA, Lj. Efremov, I. Nastev

**Mentor(s):** Prof. Snezhana Stojkovska, MD, PhD

**Country:** Macedonia

**University:** University "Sts. Cyril and Methodius" of Skopje

**Faculty:** Faculty of Medicine

*Field of medicine: Infectious diseases*

**Introduction:** Antibiotics represent one of the biggest discoveries of modern medicine. These revolutionary medications are a powerful weapon against the spread and multiplication of bacteria and a cure for many life-threatening infections. But, aside from these positive effects, the irrational and unselected use of antibiotics brought about the lowering of their effectiveness, the appearance of bacterial resistance, and at the same time, it raised the risk of side effects.

A frequent complication after antibiotics therapy is antibiotic-associated diarrhea. The most common antibiotics related to this condition are: clindamycin, amoxicilin and cephalosporins (cephalexin and cefazolin). Implicated microorganisms are: *C. perfringens*, *C. albicans*, *S. aureus* and non-typhoid salmonella, but the predominant number of cases are caused by *C. difficile*.

**Materials and methods:** This study was conducted using the clinical experience from the Clinic for Infectious diseases, Skopje and various published articles on MEDLINE/PubMed and current medical literature.

**Results:** *C. difficile*-associated diarrhea can be manifested as mild to moderate or it can progress into pseudomembranous colitis, toxic megacolon and sepsis, which can be life-threatening. The first step in treating this condition is to discontinue further administration of the incriminated antibiotic, but in some cases the symptoms persist and specific antibiotic treatment is needed.

**Conclusion:** Selective, careful and rational use of antibiotics leads to a decrease in post-antibiotic side effects and this is the most important advice for doctors and patients, as their abuse can cause many severe conditions like pseudomembranous colitis. Only with a better education for patients and health professionals, alongside with higher hygiene standards, we can reduce or prevent this disease.

**Keywords:**

Antibiotics, diarrhea, *C. difficile* infection, pseudomembranous colitis.

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## **PLENARY SESSION IV**

**Surgery, Neurology, Gynaecology, Ophtalmology**

**Date: May 13<sup>th</sup> 2013**

**ORAL PRESENTATIONS**

**Start time: 11:10-12:20**

**POSTER PRESENTATIONS**

**Start time: 12:20-13:20**

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## **List of presentations in plenary session IV:**

- 1. HUNGTINGTON'S DISEASE - A CASE REPORT**  
**ELMEDINA ASANI**
- 2. TRANSPOSITIO VASORUM (CASE REPORT)**  
**MILENA KACARSKA**
- 3. ULTRASOUND DIAGNOSIS IN EXTRA-UTERINE PREGNANCY IN ROUTINE CLINICAL PRACTICE**  
**MAJA AVRAMOVSKA**
- 4. PREVALENCE OF SEVERE DEPRESSION AND ANXIETY IN PATIENS WITH BRAIN STROKE**  
**MAGDALENA JOVCHEVSKA**
- 5. POTENTIAL OF USING ELASTIC BANDAGES ON SERBIAN GOODS TRAFFICS**  
**GRIGORIJE JOVANOVIC**
- 6. CHOLECYSTECTOMY- PREDICTIVE FACTORS**  
**ALEKSANDAR PETROVSKI**
- 7. THE SOLUTION OF OPEN INGUINAL CANALS WITH ULTRA PRO HERNIA SYSTEM ON SPORTSMEN TWO YEARS LONG EXPERIENCE**  
**DRAGAN HADZI-MANCHEV**
- 8. LIPOFILLING**  
**DARKO DASKALOV**
- 9. URINARY BLADDER CANCER (CARCINOMA VESICAE URINARIAE) AND THE METHOD OF TREATMENT**  
**METODIJA SEKULOVSKI**
- 10. LAPAROSCOPIC CHOLECYSTECTOMY AND UNEXPECTED GALLBLADDER CARCINOMA**  
**TODOR HADZI-MANCHEV**
- 11. ECTOPIC THYROID GLAND - CASE REPORTS -**  
**MARINA SRBINOSKA**
- 12. IS CATARACT SURGERY AN ALTERNATIVE TREATMENT FOR GLAUCOMA**  
**MARIO JOVANOSKI**



## HUNTINGTON'S DISEASE - A CASE REPORT

(oral presentation)

**Author(s):** ELMEDINA ASANI, Adelina Dalipi, Saranda Ristemi, Amir Ajdarovski, Sabir Sulejman

**Mentor(s):** Res. assist. Arben Taravari, MD, PhD

**Country:** Macedonia

**University:** University "Sts. Cyril and Methodius" of Skopje

**Faculty:** Faculty of Medicine

*Field of medicine:* **Neurology**

**Introduction:** We are presenting a case report of Huntington disease in a 48 years old male from Skopje, Macedonia. We will present you with our patient history and a brief summary on the disease itself, the symptoms and the pathogenesis. We believe this case to be important for the fact, he is at the age of 48 with mild prior symptoms of movements disorders. We consider this case rare as the patient choreatic symptoms developed fast and all at once.

**Case report:** The patient manifested symptoms of diffuse choreatic movements, which started few months ago, before patient's first control in our Clinic. He told us that he had had some unusually movements disorders few years ago, but with the use of some anxiolytics, prescribed by his family doctor, he felt better. We made the following tests: essential laboratory analysis: normal-, chest X-ray and echocardiography showed no cardiac abnormality, ultrasonography for abdomen was normal, rheumatoid factor and LE cells, slit lamp examination for K.F. ring was negative, EEG- normal, neuropsychological testing, evocated potentials, MRI of the brain and genetic analysis.

**Conclusion:** goal was to come up with the diagnose for our patient. Our patient has been on regular follow-up for the last six months and is being treated with Xanazine 2 x 12,5 mg Diazepam 2 x 5 mg Tocopherole 2 x 100 mg. The patient was showing mild progression at the beginning but now he is maintaining status quo, as it is often difficult to treat these patients and the disease is progressive.

**Keywords:**

Huntington disease, chorea, movements disorders, neurodegeneration.





## TRANSPOSITION OF THE GREAT VESSELS (CASE REPORT)

(oral presentation)

**Author(s):** MILENA KACARSKA, Vangel Zdraveski  
**Mentor(s):** Assist. Vladimir Chadikovski, MD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Paediatric cardiosurgery*

**Introduction:** Transposition of the great vessels (TGV) is a group of congenital heart defects (CHDs) involving an abnormal spatial arrangement of any of the great vessels: superior and /or inferior vena cava (SVC, IVC), pulmonary artery, pulmonary veins and aorta.

CHDs involving only the primary arteries (pulmonary artery and aorta) belong to a sub - group called transposition of great arteries (TGA).

**Case report:** We present a 10 months old female patient who was admitted to Clinic for Pediatric Surgery in Skopje for third surgical intervention for TGV.

The EHO examinations in Department of Pediatrics – Skopje was established following diagnoses: Congenital cardiopathy (Cardiopathia congenita cyanogenes complexa); Transposition of the great vessels (Transpositio vasorum); Stenosis a. pulmonalis; Atrial septal defect (Defectus septi atriorum typ sec.). According to the diagnoses patient was transported and surgical intervened in Sofia – R. Bulgaria with this interventions: Anastomosis Aorto - pulmonalis; Atrioseptostomia.

After the second surgery was needed and third final intervention which was performed in University Clinic for Pediatric surgery in Skopje with this operative intervention: Senning and shunt ligation, Atrial switch operation, Cormatrix for Atrial "septation" and External Pulmonary venous pathway. During the clinical hospitalization period the patient recovery well and there was no other complications.

**Conclusion:** Congenital transposition of the great arteries can be corrected with combined arterial switch and Senning operation with excellent intermediate results. In the Senning operation, viable autologous atrial tissue is used to accomplish intra-atrial transposition of venous return.

The Senning operation is an excellent technique for venous switching and is of significant historical interest. Its application in the modern era is limited and principally warranted in double-switch procedures for some patients with corrected transposition and other unusual malformations.

**Keywords:**

Transposition of the great vessels (TGV); senning and shunt ligation; pediatric cardiac surgery;



ULTRASOUND DIAGNOSIS IN EXTRA-UTERINE PREGNANCY IN ROUTINE CLINICAL PRACTICE  
(oral presentation)

**Author(s):** MAJA AVRAMOVSKA, Kristina Mitreska, Sandra Dejanova

**Mentor(s):** Nikolina Ristevska, MD

**Country:** Macedonia

**Institution:** Clinical Hospital – Bitola, Department of Obstetrics and Gynaecology, Bitola, Macedonia

*Field of medicine:* **Gynaecology**

**Introduction:** A pregnancy that is located outside the inner lining of the uterus is extra – uterine. The large majority (95%) of extrauterine pregnancies (EP, ectopic pregnancy) occur in the Fallopian tube. However, they can occur in ovary, cervix, and abdominal cavity. A major concern with an ectopic pregnancy is internal bleeding. The aim of this study is to examine the prognostic value of ultrasonic findings after the introduction of transvaginal sonography (TVS) before the final diagnosis was based on the findings at surgery and subsequent histology of removed tissues.

**Materials and methods:** In this 8 years prospective, observational study were diagnosed 33 women with an EP using TVS if any of the following were noted in the adnexal region:

1. An inhomogeneous mass or blob sign adjacent to the ovary and moving separately from the ovary, or...
2. A mass with a hyper - echoic ring around the gestational sac or *bagel sign*, or...
3. A gestational sac with a fetal pole with or without cardiac activity.

**Results:** The mean age of women was  $23 \pm 4.2$  year. In 15 (45.4%) cases an inhomogeneous mass or blob sign was visualized and in 4 cases (12.1%) an embryo±cardiac activity. Seven (21.2%) had a hyper-echoic ring in the adnexa. In 3 (9.1%) cases there was no evidence of either an intra-uterine (IUP) or EP on ultrasound. Two (6.06%) IUPs were subsequently diagnosed as heterotopic pregnancies. Thirty three surgical procedures were performed. In 6.06% (2/33) of these cases no EPs were confirmed in fallopian tube or pelvis at laparoscopy. In 9.1% (3/33) of cases an EP was visualized at surgery when not seen on the index ultrasound scan. The sensitivity and specificity of TVS to detect EP were 89.0% and 98.0%, respectively, with positive and negative predictive values of 92.5% and 99.7%, respectively.

**Conclusion:** Eighty – nine of ectopic pregnancies in this study population can be accurately diagnosed using TVS prior to surgery. Ectopic pregnancy should be finding by the positive visualization of an adnexal mass using TVS, what mean decreasing in the number of false positive laparoscopies.

**Keywords:**

Extrauterine, ectopic pregnancy, sonography



**PREVALENCE OF SEVERE DEPRESSION AND ANXIETY IN PATIENS WITH BRAIN STROKE**  
(oral presentation)

**Author(s):** MAGDALENA JOVCHEVSKA, Kristina Aleksic  
**Mentor(s):** Res. assist. Arben Taravari, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Neurology*

**Introduction:** The brain stroke is more disabling than it is fatal and it is the leading reason for major invalidity. On pathophysiological level, it is divided to: ischemic and hemorrhagic, and according to the weight and the length of the brain stroke to: bigger and smaller.

The aim of this study is to present and analyze the prevalence of explicit depression and anxiety between patients with brain stroke and the healthy control group.

**Materials and methods:** Zung's scale self rated depression scale and Zung's scale self rated anxiety were used to evaluate 34 patients with brain stroke (mean age: 61±9.93, 52.9% male, 38,23% female) and 68 healthy controls (mean age: 53±12.62, 66% male, 34% female). We classified the patients with brain stroke in two groups: patients with smaller (35.29%) and bigger (64.7%) brain stroke. We carried out an analysis of the results in IBM SPSS Statistics 19.0 program by using chi square test, Pearson correlation coefficient and Fisher's exact test.

**Results:** The patients with smaller brain stroke have 16.6% mild, 33% moderate depression, (mean Zung SDS: 51.31±9.98); 33% mild and 25% moderate anxiety (mean Zung SAS: 50.16±8.20). The patients with bigger brain stroke have 13% mild, 27% moderate, 50% severe depression (mean Zung SDS: 68.5±10.02), and 13% mild, 36% moderate and 27% severe anxiety (Zung SAS: 61.04±9.37). There is no significant difference between patients with smaller and bigger brain stroke (depression:  $p > 0.116$ , anxiety:  $p > 0.3023$ ). Depression and anxiety is significantly higher in brain stroke patients compared to healthy controls (depression:  $p < 0.0178$ , anxiety:  $p < 0.0357$ ). Correlation between depression and anxiety was strong in both, patients with smaller ( $r = 0.619$ ) and bigger brain stroke ( $r = 0.596$ ).

**Conclusion:** There is no significant difference in prevalence of depression and anxiety between patients with smaller and bigger brain stroke. The brain stroke patients have more explicit depression and anxiety compared to the healthy controls. The number of patients in this study is very small.

**Keywords:**

Brain stroke, anxiety, depression



POTENTIAL OF USING ELASTIC BANDAGES ON SERBIAN GOODS TRAFFICS  
(oral presentation)

**Author(s):** GRIGORIJE JOVANOVIC, Predrag Milicevic, Akos Kurin, Milos Kilibarda, Jelena Kosjer  
**Mentor(s):** Assist. Jelena Nikolic, MD  
**Country:** Serbia  
**University:** University of Novi Sad  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Emergency medicine**

**Introduction:** Elastic bandages are texture combined with elastic threads. It is very important to know the exact characteristics of different elastic bandages in order to be able to choose the optimal bandage for proper indication.

**Aim of the study:** The aim of the study is finding correlation between technical characteristics and optimal indications for using elastic bandages.

**Material and methods:** The research included bandages which were been registered and sold in the Serbian pharmacies in the year of 2012. Values of subbandage pressure and elastic we measured by testing machine, material density via standard Ph YU IV and fatness via fatmeter.

**Results:** We found values of subbandage pressure were in the range of: 5.2-60.0mmHg, elasticity: 39.7-389%, material density: 16-39/cm<sup>2</sup> and fatness of bandage: 1.0-4.5mm.

**Conclusion:** If we know technical characteristics of elastic bandages, such as subbandage pressure and elasticity, we can find the best type of bandage for the treatment special injuries. Indications given by factories are not often in good correlation with technical characteristics of bandages. Non elastic bandages are still quality medical equipment, but elastic bandages have numerous advantage; they facilitate mobility, have multiple use and lower healthcare costs.

**Keywords:**

Subbandage pressure, elastic bandages



## CHOLECYSTECTOMY- PREDICTIVE FACTORS

(oral presentation)

**Author(s):** ALEKSANDAR PETROVSKI  
**Mentor(s):** Prof. Biljana Taushanova, MD, PhD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Surgery, Epidemiology*

**Introduction:** Laparoscopic cholecystectomy, the gold standard treatment for symptomatic cholelithiasis.

**Materials and methods:** Data were collected of 300 cases of cholecystectomy in city hospital in Skopje – " 8 septemvri " in period of 14 months, from January 2010 to April 2011. Variables selected for extraction and statistical analysis included all those known as gender, age, pain localization and pathophysiological analysis.

**Results:** Three hundred patients were included in this study (71% women and 29% man). From two hundred and fourteen-214 women 75 or 35% have acute cholecystitis, and 139 or 65% have chronic cholecystitis. From eighty six-86 man 30 have acute cholecystitis (P >0.05) Out of 300 patients 90,4% have pain, and 9,6% doesn't have pain. From 271 patients with pain, 107 have acute cholecystitis. All 29 patients without pain have chronic cholecystitis.  $p < 0,05$ . Pathohistological findings show that 83 cholecystitis chronic calculosa, 174 cholecystitis chronica fibrosa, 7 cholecystitis gangrenous, 3 hydrops vesiculae felleae and 1 empyema. One hundred and sixteen-116 patients are treated with classical surgical method, 176 with laparoscopy method and 8 patients have conversions.

**Conclusion:** Cholecystectomy is the most relevant therapy to achieve pain reduction, to prevent the progression of inflammation or local complications and to minimize the risk of recurrence. Surgical therapy also can be supported by medical and interventional treatment, modalities depending on the severity of the disease. Acute cholecystitis is the most common complication of cholelithiasis. It develops in about 10% of symptomatic patients, gangrenous cholecystitis, gallbladder empyema, which are typical complications. The present review summarizes the surgical aspects in acute cholecystitis with a focus on laparoscopic cholecystectomy which is the gold standard of therapy.

**Keywords:**

Cholecystectomy, Laparoscopy.



THE SOLUTION OF OPEN INGUINAL CANALS WITH ULTRA PRO HERNIA SYSTEM  
ON SPORTSMEN TWO YEARS LONG EXPERIENCE

(poster presentation)

**Author(s):** DRAGAN HADZI-MANCHEV, Todor Hadzi-Manchev

**Mentor(s):** Prim. Mane Hadzi-Manchev, MD

**Country:** Macedonia

**University:** University "Sts. Cyril and Methodius" of Skopje

**Faculty:** Faculty of Medicine

*Field of medicine:* **Surgery**

**Introduction:** To make complete analysis of resolving open inguinal canals on sportsmen in hospital using ultra pro hernia system.

**Materials and methods:** Since January 2011 it has been used base of dates in which all sportsmen that were operated with ultra pro hernia system, together with demography, operative details, intra-operative and postoperative complications, the satisfaction of the sportsman, the feeling of pain after operation. Operative techniques are described. Unilateral or bilateral solving of the open inguinal canal includes one or two ultra pro hernia system.

**Results:** In period between January 2011 and January 2013 there were 96 sportsmen operated. They were between 20 and 30 years old. 26 (27,08%) of them had unilateral hernia and 70(72,92%) had bilateral hernia. The operative time at unilateral hernia was 25 minutes and in bilateral hernia was 60 minutes. There weren't any intra-operative complications. Postoperative complications were retention of urine ( because of anesthesia ) and minor subcutaneous hematoma. All sportsmen were pleased. The reasons for choosing this operative intervention is short operative time, small trauma, reduction of postoperative use of analgesics, quick return on sport fields.

**Conclusion:** The decisions for these operations come from explored for better comfort to sportsmen, well accepted operative technique, fast and easy performing. But we believe that not only one operation is enough for solving these problems at sport persons.

**Keywords:**

Open inguinal canal, hernia, sportsman, ultra pro hernia system



## LIPOFILLING

(poster presentation)

**Author(s):** DARKO DASKALOV, Tomislav Jovanoski  
**Mentor(s):** Assist. Boro Dzonov, MD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Surgery**

**Introduction:** Lipofilling is a cosmetic procedure that uses small quantities of the patient's own fat to fill dents in other parts of the body contours for reconstructive and aesthetic purposes. Due to rapid weight loss, trauma or because of a person's natural build, certain areas can look empty, or to lack the normal contours that would make the patient lose confidence. Thirty five patients were fat injected at our clinic starting from 2008. The aim is to present our first results in 3 patients with postoperative follow up of 12 months.

**Materials and methods:** From 2008 to 2012, at thirty five patients, with average age 24, was made correction of the deformity by using fat grafting. We used the wet liposuction technique to obtain the grafts and the patients were injected from 50 to 300ccm purified fat aspirate. The main donor sites for liposuction are the hips, abdomen and the gluteal areas. The main reconstructive problems for treatment with purified fat are hemifacial atrophy, posttraumatal scars, skin depressions, labial contours and nasolabial wrinkles. Usually, the defect is overcorrected 20 to 30 % that depends from the operative region.

**Results:** We presented the lipofilling results with postoperative follow up of 12 months. The postoperative resorption is satisfying 20-30% and depends on the recipient area. The face is extraordinarily recipient area for lipofilling. It is technically very simple method, the scars are just a few millimeters in length and hidden in the skin folds, the stabilized results will be visible after two or three weeks, they are related to factors such as lifestyle, sudden weight change and aging.

**Conclusion:** The aim of lipofilling can be summed up in one word: remodeling, this procedure provides firmness, roundness and harmonious curves in the areas that look unnatural and unattractive.

**Keywords:**

Liposuction, increasing, reducing, body remodeling.



**URINARY BLADDER CANCER (CARCINOMA VESICAE URINARIAE) AND THE METHOD OF TREATMENT**  
(poster presentation)

**Author(s):** METODIJA SEKULOVSKI; Lubomir Spassov, MD, Phd; Georgi Mutafov, MD;  
Kiril Penchev; Krasimir Nikolov; Monika Peshevska  
**Mentor(s):** Assoc. prof. Petar Petrov, MD, PhD  
**Country:** Bulgaria  
**University:** University "St. Kliment Ohridski" of Sofia  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Surgery**

**Introduction:** 30 year old female patient is admitted in hospital with urinary bladder cancer (carcinoma vesicae urinariae) third degree with infiltration to one of the urethers.

**Case report:** We present clinical case of 30 years old patient, with urinary bladder cancer (carcinoma vesicae urinariae) third degree with infiltration to one of the urethers. As one of the ways of treatment, that we used with this patient is Cystouretaectomy. Derivatio urinaea m.MAINZ II. The derivation of the urine has been done by implantation of the both urethers into new-formed sigmoid colon's 'pocket'.

**Conclusion:** Urinary bladder cancer (Carcinoma vesicae urinariae) usually is determined in 60-65 years old people, but in the last decade it is determined in the people of their early age. As one of the ways of treatment, that we used with this patient is Cystouretaectomy. Derivatio urinaea m. MAINZ II. The derivation of the urine has been done by implantation of the both urethers into new-formed sigmoid colon's 'pocket'. Carcinoma vesicae urinariae is one of the most often malignant diseases in the industrial developed countries, it take fourth place, behind carcinoma prostatae, carcinoma pulmonalis, carcinoma colon and it is approximately 5-10 % of all carcinoma diseases in Europe and USA.

**Keywords:**

Carcinoma vesicae urinaria, Bladder cancer, Cystouretaectomy, Derivatio urinaea m MAINZ II.





**LAPAROSCOPIC CHOLECYSTECTOMY AND UNEXPECTED GALLBLADDER CARCINOMA**  
(poster presentation)

**Author(s):** TODOR HADZI-MANCHEV, Dragan Hadzi-Manchev  
**Mentor(s):** Prim. Mane Hadzi-Manchev, MD  
**Country:** Macedonia  
**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine:* **Surgery**

**Introduction:** Gallbladder carcinoma is a rare disease, it is detected in less than 1% of all cholecystectomies. With the introduction of laparoscopic surgery and after it has become the method of choice, gallbladders are now removed much earlier than they used to be. With the increase of cholecystectomies, the diagnosis of unexpected gallbladder carcinoma became more frequent. We report different situations in which gallbladder cancer is noted: 1. at the time of dissection when extensive inflammatory (malignant) infiltration of gallbladder wall was found, 2. post-operatively on final pathology.

**Materials and methods:** In years from 2009 to February 2013 we performed 756 cholecystectomies in General hospital Re Medika Skopje. Of these 4 (0,52%) were indented as unexpected carcinoma. There were 3 women and 1 man, and the mean age was 68 years. In 1 patient ( 25% ), malign-nancy was suspected intraoperatively. In this patient operation was converted into open procedure. In 3 patients (75%) gallbladder carcinoma was diagnosed post-operatively after pathologic examination of the resected gallbladder. 1 patient (25% ) had stage T1. The patient is under clinical supervision and she has no presence of malignancy. 3 patients (75% ) had stage T3-T4N1. Only 1 of them has agreed to undergo re-operation. Patient with serendipitous treated gallbladder carcinoma with laparoscopic cholecystectomy had not other operation. She is still alive at 18 months follow up.

**Conclusion:** Unfortunately there are no widely accepted guidelines regarding high risk gallbladder cancer patients. Pathologic study after operation is mandatory. We perform laparoscopic cholecystectomy for high risk cancer patients provided they are good surgical candidates. It is curative for Tis and T1 stage of gallbladder carcinoma .In all high risk gallbladder carcinoma patients, gallbladder extraction is in a plastic bag.

**Keywords:**

Gallbladder, carcinoma, cholecystectomy



**ECTOPIC THYROID GLAND - CASE REPORTS -**  
(poster presentation)

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**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Pathophysiology*

**Introduction:** Ectopic thyroid gland is a developmental anomaly, resulting in lingual, sublingual, prelaryngeal and substernal ectopy of thyroid tissue (ETT). Hypothyroidism and local complications may occur, related to tumor size.

**Case reports:** 1. A 25-year old female, married, 2 children, with a history of neck pain and dysphagia was diagnosed on throat examination by ORL specialist as haemangioma at the tongue base. Surgical resection was performed. The histopathology revealed ETT. Postoperatively, a relapse or residua was assumed by CT scan of neck region. Nuclear medicine examination showed: increased TSH > 48 (0.4 - 4.5 μU/mL) and decreased FT4 4.7 (9 - 25 pmol/L) with no subjective symptoms, no visualization of thyroid tissue in the normal anatomical location on ultrasound (US) of the neck and thyroid scintigraphy (TS) with 99mTcO<sub>4</sub><sup>-</sup>, but a single midline functioning thyroid tissue at the base of patient's chin. Hypothyroidism was diagnosed and replacement therapy with Levothyroxine was started.

2. A 35-year old male, euthyroid, with a mass on the neck surface was examined by US and TS which revealed minimal thyroid tissue on the normal thyroid localization and another bigger-35mm tissue submentally, with uptake of 99mTcO<sub>4</sub><sup>-</sup> on scintigraphy. Fine needle aspiration biopsy diagnosed ETT.

3. A 66-year old female, married, 2 children, dentist, with a history of goitre from childhood, firstly admitted, complained of chest pain and intensive sweating. Mild hypothyroid state was diagnosed. US confirmed no thyroid tissue in the normal anatomical thyroid bed with thyroid tissue upon cricoid cartilage - 33mm. The patient was treated with Levothyroxine.

**Conclusion:** Ectopic thyroid gland is a rare entity, discovered incidentally. Hypothyroidism is often present and may cause the mass to enlarge and become symptomatic. It is often visually obvious if attached to the tongue. Any disease affecting the thyroid gland may also involve the ectopic thyroid, including malignancy.

**Keywords:**

Ectopic thyroid gland; case report



**IS CATARACT SURGERY AN ALTERNATIVE TREATMENT FOR GLAUCOMA?**  
(poster presentation)

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**University:** University "Sts. Cyril and Methodius" of Skopje  
**Faculty:** Faculty of Medicine

*Field of medicine: Ophthalmology*

**Introduction:** This type of alternative treatment for glaucoma in cataract surgery has the main aim: To evaluate morphologic changes in the anterior chamber after cataract extraction in glaucomatic and in non-glaucomatic patients.

**Materials and methods:** Patients are divided into two groups:  
1st group (60 eyes) were patients operated for cataract without glaucoma.  
2nd group (22 eyes) were patients operated for cataract with glaucoma (under anti-glaucomatic treatment).  
In both groups the IOP, anterior chamber depth (ACD) and angle of anterior chamber of 90 degrees measured before surgery and 6 weeks after surgery.

**Results:** In non-glaucomatic patients ACD before operation was 3,1 mm and after operation was 4,5 mm iridocorneal angle of anterior chamber before operation 23,2 degrees and after was 35,5 degrees. IOP were decreased from 14,8 mmHg to 13,3 mmHg. In glaucomatic patients ACD was 2,9 mm before cataract extraction and 4,4 mm after. Iridocorneal angle of AC was 18,5 degrees before and 31,7 degrees after surgery. IOP were decreased from 17,9 mmHg to 15,9 mmHg .

**Conclusion:** There are significant morphologic changes in the anterior chamber (ACD, IOP, IRIDOCORNEAL ANGLES) after cataract extraction and implantation of post. IOL .

**Keywords:**

Cataract surgery; anterior chamber of the eye; glaucomatic patients; non-glaucomatic patients

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# POST-CONGRESS TOUR



### **VISIT TO THE MONASTERY OF SAINT NAUM**

To finish off the great conference days, there will be the Post Congress Tour. This day's goal is to show you just a small part of the beauty of Ohrid. The departure will be at 11:00, Tuesday, 14. May, after the breakfast.

We will visit the Monastery of Saint Naum by ship. This monastery is an Eastern Orthodox monastery in the R. Macedonia, named after the medieval Saint Naum who founded it. It is situated along Lake Ohrid, 29 kilometres (18 mi) south of the city of Ohrid. The Lake Ohrid area, including St Naum, is one of the most popular tourist destinations in Macedonia. The monastery was established in the year 905 by St Naum of Ohrid himself. St Naum is also buried in the church. Inside, there's a tomb of saint Naum, and if you lean your ear on the stone casket, you can (as legend says) hear his heartbeat.



#### **The Monastery of Saint Naum in Ohrid**

The Post Congress Tour will be an amazing day full of relaxation, fun and activities related to the Macedonian culture. But above all, it will be a day you will spend with other colleagues and members of MMSA. So come and enjoy this marvelous day and don't miss out!

It will be a day of relaxation, new experiences, and above all a day to never forget.

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# ABOUT



## REPUBLIC OF MACEDONIA

Macedonia (Macedonian: Македонија), officially Republic of Macedonia (Република Македонија), is an independent country on the Balkan peninsula in the heart of southeastern Europe. The country borders Albania to the west, Bulgaria to the east, Greece to the south and Serbia and Kosovo to the north. In 2005, the Republic of Macedonia received official candidate status for the European Union. The capital is Skopje with more than 500,000 inhabitants. It also has a number of other significant cities, notably Bitola, Prilep, Tetovo, Gostivar, Kumanovo, Ohrid, Veles, Štip, and Strumica. The Republic of Macedonia is often called a land of lakes and mountains. There are more than 50 natural and artificial lakes and sixteen mountain ranges higher than 2,000 m (6,562 ft) above sea level.



Macedonia has a rich cultural heritage in art, architecture, poetry and music. It has many ancient, protected religious sites. Poetry, film and music festivals are held each year.

Macedonian music styles developed under the strong influence of Byzantine church music. Macedonia belongs to the countries with the best preserved frescoes, many of which date from the period between the 11th and 16th centuries. There are several thousand square meters of preserved frescoes, most of which are in very good condition and are masterpieces of the Macedonian School of ecclesiastical painting.

In Macedonia the past meets the present. Its age-old architecture and monasteries and churches of exquisite beauty make an interesting contrast with the super modern new architecture. Almost all Macedonian monasteries, built in different periods, particularly those built between the 11th and 15th-16th century, is now completely preserved. Macedonian collection of icons, especially Ohrid is one of the most valuable collections in the world today. After Sinai and the Moscow collection of icons, is third in importance within Orthodoxy. The Byzantine aspect, it is unique.

The most important cultural events in the country are the Ohrid summer festival of classical music and drama, the Struga poetry evenings which gather poets from more than 50 countries around the world, Skopje May opera evenings, International camera festival in Bitola, open Youth theatre, Skopje jazz festival and many others.

## OHRID



Ohrid, an immortal town, on the mythical Balkan, a magical hill of Macedonia whose primordial pulsation links ancient and modern times forever.

It is the largest city on Lake Ohrid and the eighth-largest city in the country with over 42,000 inhabitants. Ohrid is notable for once having had 365 churches, one for each day of the year, and has been referred to as a "Jerusalem (of the Balkans)". The city is rich in picturesque houses and monuments, and tourism is predominant. It is located southwest of Skopje, west of Resen and Bitola, close to the

border with Albania.

Ohrid has been a living town for two thousand and four hundred years, the legitimate descendant of the shining Lychnida, a town whose achievements were woven into the tapestry of a powerful ancient civilization. The town of Ohrid is indeed the cultural history of the Republic of Macedonia in miniature. As an Episcopal center in ancient times, and likewise through the widely renowned Ohrid archbishopric, the town has likewise through centuries represented the entire ecclesiastical history of Macedonia. It bears the name "The Balkan Jerusalem". Through the activity of St. Clement of Ohrid, at the end of 9th and the beginning of the 10th century the first pan - Slavonic university in Europe was situated here.

Ohrid was the most important official capital of the first mediaeval Macedonian state, of Samuel's empire. Ohrid is a literary center of Macedonia in the 19th century with the strong maxim of one of the greatest European intellectuals of that time, the native from Ohrid, Grigor Prlichev, so called "The second Homer": PERFECTION OR DEATH!

Today Ohrid is a cultural, spiritual and tourist center of Macedonia. And finally, as the crowning glory of its values, Ohrid and the lake of Ohrid were declared a cultural and natural heritage site under protection of UNESCO since 1980.

## SKOPJE

Vodno is a mountain located in the northern part of the country, to the southwest of the capital city Skopje. The highest point of the mountain is at Krstovar peak, on 1066 meters and the submontane is on 337 m (Middle Vodno is on 557 m). In 2002, on Krstovar peak the Millennium Cross was built, is one of the biggest crosses in the world.

The Mother Teresa Memorial House is dedicated to the humanitarian and Nobel Peace Prize laureate Mother Teresa. The memorial house was built on the popular Macedonia Street. It is a modern, transformed version of Mother Teresa's birth house and has a multi functional, but sacral character. Inside the house, parts of her relics are preserved. There is a museum and sculptures of Mother Teresa and the members of her family in realistic appearance. One sculpture shows Mother Teresa as a ten-year old child, sitting on a stone and holding a pigeon in her hands.

The Stone Bridge rises magnificently over the river Vardar in the central part of Skopje, the capital of Macedonia. The bridge connects the old and the new part of the city, and is the primary element of the daily communication of its inhabitants and visitors. There is no visitor who visited Skopje and did not walk over it. The bridge connection the two part of Skopje not only physically, but also with time. All important events throughout history and all the events of today take place on it.

The Old Bazaar in Skopje is the largest bazaar in the Balkans. Situated on the eastern bank of the Vardar River the bazaar had been the city's centre for trade and commerce since at least the 12th century. It rapidly grew and reached its peak during Ottoman rule, evidenced by over 30 mosques, several caravanserais, and other Turkish buildings and monuments. Although Islamic architecture is predominant in the bazaar, there are several churches as well. Kale fortress has the dominant place in Skopje. It was built of stone blocks from the ruins of the city of Scupi, during the rule of the Byzantium Emperor Justinijan the 1st.

The ramparts of the Skopsko Kale are 121 meter long and today one square, one rectangular and one round tower are saved. It originates from the 6th century, while it's presents appearance is from the Ottoman period. The great complex since 1392 was stationary of the Turkish army until 1913, when Skopje falls under Serbian authority. And in the period from 1913 to 1953 here was settled the Yugoslav army. Today in the space of the fortress is an arranged park, which serves for recreation and fun, and in the evening hours besides the sounds of the Macedonian folks music, the visitors have a wonderful view on the city and the river Vardar from there.

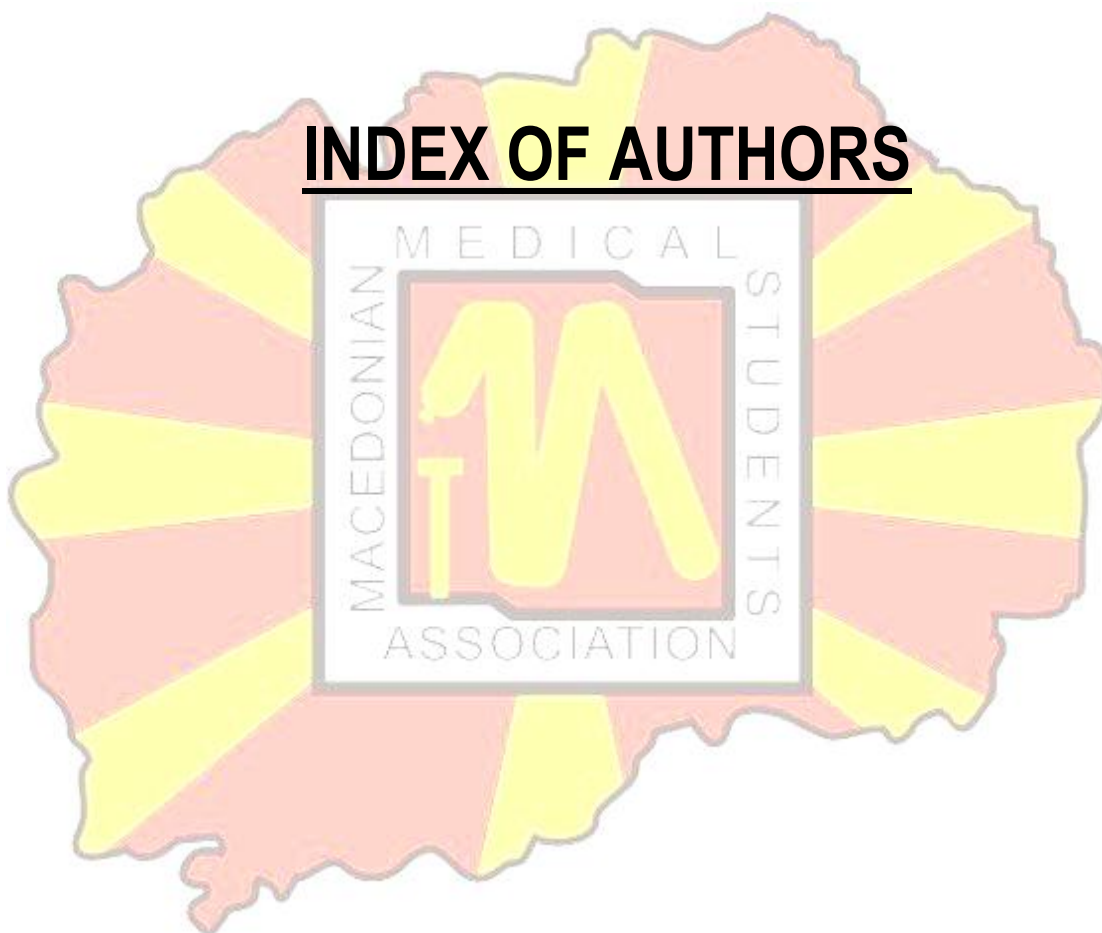
Probably you already have heard about LC's Skopje fabulous parties, if not ask someone who already has been in our events...

Skopje is small city, but there is plenty of nightlife with many night clubs & bars with different kind of music which are open everyday of the week. Also we will organize again our traditional Wine night with a lot of glamor and good wine. We should not forgot to mention the kafanas with live folk music, free-flowing alcohol & dancing on tables. It is just AWESOME!



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# INDEX OF AUTHORS



## INDEX OF AUTHORS:

A	
Ademaj A.	72
Afifah Mutiksa F.	57, 62
Ajdarovski A.	68, 80
Aleksic K.	83
Arsova V.	69
Asani E.	68, 80
Avramovska M.	75, 82
B	
Baneva E.	56
Blazhevaska S.	61
Buran K.	51
D	
Dalipi A.	68, 80
Daskalov D.	70, 87
Dejanova S.	75, 82
Dimitrova M.	74
Dimitrova V.	76
Donev M.	42
E	
Efremov Lj.	75,77
G	
Gicic K.	33, 38
Gicich A.	65
Gjorchevska E.	66
H	
Hadzi-Manchev D.	86, 89
Hadzi-Manchev T.	86, 89
I	
Ilieska Lj.	44
Ilievaska A.	74
Ilievaska M.	45, 90
J	
Jordanovski J.	60
Jovanovska A.	66
Jovanoska I.	58
Jovanoska M.	58, 59

Jovanoski M.	91
Jovanoski T.	70, 87
Jovanovic G.	71, 84
Jovchevska M.	83
K	
Kacarska M.	81
Kalpak Gj.	56
Kandic E.	66
Kilibarda M.	84
Kimoski H.	45, 90
Kosjer J.	71, 84
Kostovski M.	39, 42
Krleski A.	53
Krstevski M.	91
Kurin A.	84
L	
Lazarov H.	76
Lyashchenko O.	31
M	
Marinkovic Z.	33, 38
Memedi E.	37, 41
Miletic M.	73
Miletic. N.	73
Milicevic P.	71, 84
Mitreska K.	82
Mojsoski M.	50
Muca A.	72
Murdzev A.	52
Murtezani A.	66
Mutafov G.	88
N	
Nastev I.	75, 77
Nikolov K.	88
P	
Penchev K.	88
Peshevaska M.	76, 88
Petrov B.	60



Petrovski A.	85
Petrusheva A.	48
Pollozhani K.	54
Puleska M	74
Purrini R.	37, 41
<b>R</b>	
Ristemi S.	68, 80
Ristevska N.	45, 90
<b>S</b>	
Sejmenov P.	58, 59
Sekulovski M.	76, 88
Smileska I.	74
Softic A.	54
Spasov L.	88
Srbinska M.	45, 90
Starova H.	54
Stojanoski S.	45, 90
Stojanovski A.	60
Sulejman S.	68, 80
<b>T</b>	
Tagasovski I.	67
Taskova Z.	34
Teov B.	32
Todorov N.	35, 55
Todorov S.	43
Todorova A.	40
Todorovska M	52
Trajkovska N.	32
Trichkovska S.	75, 77
Trifunova A.	76
Trpkovski I.	36
<b>V</b>	
Vasileva A.	34, 42
Velevska I.	49
<b>Z</b>	
Zdraveski V.	81
Zimoska A.	50