

MSNDTAO / МЗНДТВО

**7-ми МЗНДТВО Конгрес**  
**Македонското Здружение за Нефрологија, Дијализа,**  
**Трансплантација и Вештачки Органи**  
**со меѓународно учество**  
**и**  
**ISN поддржан КМЕ курс, одобрен од ERA**

**7th MSNDTAO Congress**  
**Macedonian Society of Nephrology,**  
**Dialysis and Artificial Organs**  
**with International participation**  
**and**  
**ISN supported CME course with ERA endorsement**



**“From Prevention to Best Treatment Options in CKD”**  
**&**  
**IPNA teaching course**



**“Rare Diseases in Pediatric Nephrology”**  
**04-07 April 2024**

Skopje, N. Macedonia  
Venue: Holiday Inn hotel Skopje  
<https://mzndtvo.com.mk>

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## WELCOMING ADDRESS OF THE PRESIDENT

As President of the Congress and on behalf of the International and Local Organizing Committee it is my great privilege to welcome you to the 7th Congress of the Macedonian Society of Nephrology, Dialysis, Transplantation and Artificial Organs (MSNDAO) with International Participation and International Pediatric Nephrology Association (IPNA) Teaching Course "Rare Diseases in Pediatric Nephrology" to be held in Skopje, N. Macedonia, 04-07 April, 2024.

The Congress is supported by the International Society of Nephrology (ISN) and the ISN Course "From Prevention to Best Treatment Options in CKD" will follow at the last days of this extraordinary event. The event is also ERA endorsed. This Congress is certainly a special occasion for those who work for the development of Nephrology, in education, research and professional development. It will be an occasion to meet, to listen, to discuss, to share information and to plan for the future. Also, the IPNA teaching course will take place alongside these events, emphasizing the challenges that our youngest patients are facing and present the new treatment options for this most vulnerable population.

The Scientific Committee of the Congress has paid great attention to various topics in the field of Nephrology and the treatment of chronic renal disease. The invited speakers, all well-known distinguished international experts and scientists, are coming from different parts of the Balkans and the world. During the Congress, issues will be discussed through a state-of-the-art presentations and mini lectures involving Clinical Nephrology, Hypertension, Nephrolithiasis, Urinary tract infections, Adult dominant polycystic kidney disease, Prevention and treatment of Chronic Kidney Disease, Renal Replacement Therapy (Hemodialysis, Peritoneal Dialysis, Kidney Transplantation). In depths exchange of the knowledge within dedicated sessions will be at the chapters on Vascular Accesses (creation, surveillance and management of complications, both medical and surgical), Immunosuppressive treatment in Clinical nephrology and Kidney transplantation, etc.

I am deeply convinced that this event will be of an exceptional importance for the region, considering that we will be able to see all the international achievements and the most up-to-date methods used in the Nephrology field. I certainly hope that this rich variety of speakers and activities will provide fresh impetus for advancements in education as well. I am confident, too, that we'll further proceed with our well established regional friendly spirit or even get stronger bonds among us all, nephrologists who share the common goal of improvement in the Nephrology sphere.

Thus, we'll be able to propose to our health decision-makers introduction of proven state of the art procedures in the prevention and treatment of kidney disease, which will improve the quality of life of our patients.

We have tried to provide learning opportunities from experts, but also, we invited many colleagues from the region to actively participate sharing their clinical experience and research.

We are exceedingly counting on your active involvement to foster and exalt the clarification of the chosen scientific topics.

The host city Skopje will introduce its rich cultural places, historic tradition, mixture of old and modern architecture. It is the capital and largest city in the Republic of North Macedonia, with more than a quarter of the population of the country, as well as the political, cultural, economic and academic centre of the country. We would encourage you to take a walk along our river "Vardar", stroll along the narrow streets of the Old Bazaar, which is the biggest bazaar preserved in the Balkans today, Kale fortress, and certainly visit St. Pantelejmon church and admire the fresco "Lamentation of Christ", bearing the first signs of the Renaissance and the Matka canyon. Great traditional food and unique Macedonian wine, hospitality of the people, beautiful landscapes are the main reasons for each visitor to have unforgettable stay in Skopje.

I hope to see you here in Skopje in April to enjoy the Congress that we hope will be of interest to you and to simultaneously enjoy a pleasant welcoming city full of attractions.

Sincerely,

Prof. Goce Spasovski,  
President of the Congress



## НАУЧНИ ИНФОРМАЦИИ / SCIENTIFIC INFORMATION ОРГАНИЗАЦИСКИ ОДБОР / ORGANISING COMMITTEE

### Goce Spasovski

Претседател на конгресот / President of the Congress  
Претседател на МЗНДТВО / President of the MSNDTAO

### Olivera Stojceva Taneva

Почесен потпретседател на конгресот / Honorary Vice President of the Congress  
Почесен секретар на МЗНДТВО / Honorary Secretary of the MSNDTAO

### Velibor Tasic

Директор на IPNA едукацискиот курс / Director of the IPNA Teaching Course  
Претседавач на научниот одбор / Chair of the Scientific Committee

## НАУЧЕН ОДБОР / SCIENTIFIC COMMITTEE

### Членови / Members

Zivko Popov	Petar Dejanov
Gjulsen Selim	Vesna Ristovska
Biljana Ger. Kitanovska	Pavlina Dzekova Vidimliski
Nikola Gjorgjievski	Saso Dohcev
Irena Rambabova Bushljetik	Lada Trajceska
Igor Nikolov	Vladimir Pushevski
Galina Severova	Kocho Dimitrovski

## ОРГАНИЗАЦИСКИ ОДБОР / ORGANISATIONAL COMMITTEE

### Членови / Members

Svetlana Pav. Kuzmanoska	Zvezdana Petronijevic
Aleksandra Can. Tanevska	Zaklina Sterjova Markovska
Vasko Tomanovski	Nikolina Smokovska
Blerim Bedzeti	Mimoza Milenkova

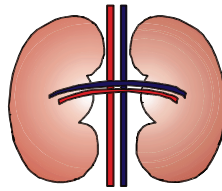
### Техничка поддршка / Technical assistance

Mirce Gigov   Sonja Stambolieva   Jane Janev

**МЕЃУНАРОДЕН НАУЧЕН СОВЕТОДАВЕН ОДБОР /  
INTERNATIONAL SCIENTIFIC ADVISORY BOARD**

(Поканети предавачи / Invited speakers)

Raymond Vanholder (Belgium)  
Andrzej Wiecek (Poland)  
Dimitris Goumenos (Greece)  
Nada Dimkovic (Serbia)  
Merita Rroji (Albania)  
Constantinos Stefanidis (Greece)  
Ioannis Boletis (Greece)  
Rafael Ponikvar (Slovenia)  
Ziad Massy (France)  
Vladimir Tesar (Czech Republic)  
Fernando Makario (Portugal)  
Marc De Broe (Belgium)  
Mustafa Arici (Turkey)  
Mary Darema (Greece)  
Mirjana Lausevic (Serbia)  
Lionel Rostaing (France)  
Jadranka Buturovic Ponikvar (Slovenia)



MSNDTAO / MЗHДTBO

## Congress MSNDTAO, 04-07 April, 2024, Skopje, N. Macedonia

April 04th, 2024 - Thursday

Opening Ceremony 19:00-20:30 (Great conference hall)

### Presidential and welcome address

- Goce Spasovski** - Congress President - MSNDTAO - activities over the years  
**Velibor Tasic** - Welcome address from MSNDTAO pediatric nephrologists  
**Biljana Angelova** - Rector of the University Sts Cyril and Methodius  
**Svetozar Antovic** - Dean of the Medical Faculty, University of Skopje  
**Zivko Popov** - President of the Macedonian Academy of Sciences and Arts
- 19:30 - 20:00** Opening lecture - **Raymond Vanholder**: Green nephrology  
**20:00 -** Social program

**20:30 - WELCOME COCKTAIL - exhibition hall**

April 05th, 2024 - Friday

**08:00 Registration opens**

**08:30-10:10 Chronic Kidney Disease progression & treatment**  
 Chairs: Andrzej Wiecek & Nada Dimkovic

- 08:30-8:50 -** CKD: current status - **Raymond Vanholder** (Belgium)  
**08:50-9:10 -** Advances in the management of CKD - **Mustafa Arici** (Turkey)  
**09:10-9:30 -** Classical and non-classical risk factors for cardiovascular complications in patients with chronic kidney disease - **Andrzej Wiecek** (Poland)

- 09:30-9:50 - All about new anemia therapy - HIF stabilizers -  
**Nada Dimkovic** (Serbia)
- 09:50-10:10 - Association between the genetic polymorphisms and the response to erythropoietin therapy in dialysis patients with anemia  
**Pavlina Dzekova Vidimliski** (N. Macedonia)
- 10:10-10:30 - **Coffee break**
- 10:30-11:00 - **Mini symposium ALKALOID**  *Health above all*  
Scientific Symposium – European guidelines for arterial hypertension 2023 - pharmacological treatment -  
Prof. **Magdalena Otljanska** (N. Macedonia)
- 11:10-12:50 - **Hypertension & Diabetes as risks for CKD**  
**Chairs: Mustafa Arici & Gjulsen Selim**
- 11:10-11:30 - Uncontrolled hypertension and chronic kidney disease -  
**Biljana Gerasimovska** (N. Macedonia)
- 11:30-11:50 - Optimal Blood Pressure for Renoprotection – **Mustafa Arici** (Turkey)
- 11:50-12:10 - Mineralocorticoid receptor inhibitors and the kidney -  
**Vladimir Tesar** (Czech Republic)
- 12:10-12:30 - Impact of chronic kidney disease on diabetic foot syndrome in patients with diabetes type 1 and type 2 - **Igor Nikolov** (N. Macedonia)
- 12:30-12:50 - OP - Coenzyme Q10 in patients with kidney diseases  
**S. Danailova 1,2, P. Petrov1,2, S. Staykova1,2**, 1Clinic of Nephrology, University Hospital "St. Marina" – Varna, 2 Medical University "  
Prof. Dr. Paraskev Stoyanov" – Varna
- 13:00-13:45 - **Lunch - Scientific Symposium BAYER**   
Scientific Symposium - "Kidney and heart dialogue" –  
Prof. **Goce Spasovski**, Doc. **Irena Rambabova Bushljetik**,  
Prof. **Lidija Popovska** (N. Macedonia)
- 13:45-14:00 - **Lunch break**



14:00-15:20 -

**Kidney Transplantation – Clinical issues**Chairs: **Ioannis Boletis & Mirjana Lausevic**

14:00-14:20 -

Discarded kidneys: do we all agree on the right direction? -  
**Mary Darema** (Greece)

14:20-14:40 -

Kidney transplantation in highly sensitized patients -  
**Galina Severova** (N. Macedonia)

14:40-15:00 -

The improvement in Greek transplant program – where it started  
and where it's going? - **Ioannis Boletis** (Greece)

15:00-15:10 -

OP - Late complications after kidney transplantation:  
malignancy and IgA nephropathy recurrence  
**I. Marinova, V. Yordanova, B. Zlatkov, J. Filipov, M. Petrova, L. Hristova,  
A. Iliev, P. Megerov, A. Hatzipantelis, M. Stefanov, P. Angelova,  
R. Grigorova, S. Slavova, E. Paskalev**; Department of Nephrology and  
Transplantation; University Hospital "Alexandrovska" - Sofia, Bulgaria

15:10-15:20 -



OP - Comparison of glomerular filtration rate obtained by nuclear  
measurement method vs. estimated mathematical equations in  
kidney recipients from deceased donors.  
**Z. Sterjova Markovska<sup>1</sup>, I. Rambabova Bushljetik<sup>1</sup>, L. Trajceska<sup>1</sup>,  
G. Severova<sup>1</sup>, J. Usprcov<sup>1</sup>, A. Canevska<sup>1</sup>, A. Peshevska<sup>2</sup>,  
T. Makazlieva<sup>2</sup>, E. Rambabova<sup>3</sup>, S. Krstevska Balkanov<sup>4</sup>,  
G. Spasovski<sup>1</sup>**. <sup>1</sup>University clinic of Nephrology, <sup>2</sup>Institute of  
Pathophysiology and Nuclear Medicine, Faculty of Medicine,  
University Ss. Cyril and Methodius, Skopje, <sup>3</sup>University  
Goce Delcev, Shtip, <sup>4</sup>University clinic of Hematology, N. Macedonia

15:30-16:15 -

Scientific Symposium – **KOCH**Prof. **Burak Kocak** – Robot - assisted kidney transplantationProf. **Caner Susal** – The future of Kidney transplantation –  
Immunologist's perspective

16:15-16:40 -

**Coffee break**

- 16:40-17:30 - Rare diseases in nephrology**  
Chairs: **Merita Rroji & Irena Rambabova Bushljetik**
- 16:40-17:00 -** Chronic interstitial nephritis in agricultural communities (CINAC) - **Marc De Broe** (Belgium)
- 17:00-17:20 -** Beyond Traditional Management: Pioneering Therapeutic and Diagnostic Developments in ADPKD - **Merita Rroji** (Albania)
- 17:20-17:30 -** OP - Fabry disease – characteristics for the Bulgarian population  
**I. Marinova, B. Zlatkov, J. Filipov, M. Petrova, L. Hristova, A. Iliev, P. Megerov, A. Hatzipantelis, V. Yordanova, M. Stefanov, P. Angelova, R. Grigorova, S. Slavova, E. Paskalev**  
Department of Nephrology and Transplantation,  
University Hospital “Alexandrovska” - Sofia, Bulgaria
- 17:30-18:00 - Scientific Symposium – A1**   
Satellite Symposia Amicus Pharma I - “Multidisciplinary approach in Fabry Disease”  
Prof. **G. Spasovski**, MD (N. Macedonia) and  
Prof. **O. Bushljetik**, MD (N. Macedonia)
- 18:10-18:40 - Scientific Symposium – A2**   
Satellite Symposia Amicus Pharma II - “Unmet need in a HUS and PNH”  
Assoc. Prof. **M. Mitrovic**, MD (Serbia) and  
spec. **N. Abazi-Emini**, MD (N. Macedonia)

## April 6th, 2024 - Saturday

- 08:00 Registration opens**
- 08:30-9:30 Clinical Nephrology, CVD and Diabetes – an update**  
Chairs: **Dimitris Goumenos & Vladimir Tesar**
- 08:30-8:50 -** Current management of Lupus Nephritis – **Ioannis Boletis** (Greece)
- 08:50-9:10 -** Features of CVD in CKD - **Ziad Massy** (France)
- 09:10-9:30 -** How to prescribe Metformin to patients with CKD2-4? -  
**Marc De Broe** (Belgium)

09:40-10:25 -

Scientific symposium - **BOEHRINGER**

Scientific Symposium – How far we have advanced in the treatment of chronic kidney disease?

Doc. Dr. **Irena Rambabova Bushljetik**, Prof. Dr. **Tatjana Milenkovic**, Prof. Dr. **Goce Spasovski** (N. Macedonia)

10:25-10:45 -

Coffee break



10:45-11:30 -

Scientific symposium - **ALKALOID***Health above all*

Scientific Symposia: From acetate to citrate, advantages and benefits - Doc. Dr. **Brankica Terzic** (Serbia)



**11:40 – ISN supported and ERA endorsed CME course  
“FROM PREVENTION TO BEST TREATMENT OPTIONS IN CKD”  
(6th April 2024) - Registration**

11:40-11:45 -

Opening of the course - ISN presentation

11:45-13:00 -

Prevention in CKD progression and management

Chairs: **Raymond Vanholder & Andrzej Wiecek**

11:45-12:10 -

**Dimitris Goumenos**: An update of the human kidney disease progression

12:10-12:35 -

**Goce Spasovski**: Prevention in the CKD progression

12:35-13:00 -

**Vladimir Tesar**: Chronic heart failure and the kidney

13:00-14:00 -

Lunch – Scientific Symposium - **GB**

GENESIS Satellite Symposium: “Advances in the diagnosis and management of Primary Hyperoxaluria Type 1”

- “Primary hyperoxaluria type 1 - clinical phenotypes in children and adults”, Prof **V. Tasic**, N. Macedonia
- “Updates in the diagnostic pathways and management of PH1 in pediatric patients”, Prof **C. Stefanidis**, Greece

- “Preliminary experience of siRNA therapy in PH1 pediatric patients in North Macedonia”, Dr **N. Abazi Emini**, N. Macedonia
- “The clinical value of RNAi therapeutics in PH1: focus in the adult population”, Prof **E. Rusu**, Romania
- Q&A

14:00-14:30 - **Lunch break**

14:30-15:45 - **CKD and DKD – treatment strategies**  
Chairs: **Ziad Massy & Fernando Macario**

14:30-14:55 - **Fernando Macario**: Advancing CKD Care: Innovative Strategies for Enhanced Patient Value

14:55-15:20 - **Vladimir Tesar**: SGLT2 inhibitors vs GLP-1ra in the treatment of diabetic kidney disease

15:20-15:45 - **Raymond Vanholder**: Home hemodialysis

16:00-17:15 - **Kidney transplantation**  
Chairs: **Mary Darema & Goce Spasovski**

16:00-16:25 - **Lionel Rostaing**: Maintenance immunosuppressive: what are the best options in 2024?

16:25-16:50 - **Jadranka Buturovic Ponikvar**: Nonadherence after kidney transplantation in adolescents and young adults: medical and ethical challenges

16:50-17:15 - **Lionel Rostaing**: Incompatible kidney transplantations: a winding road leading to success

17:15-17:20 - **Closing remarks**

17:20-17:40 - **Coffee break**

17:40-18:50 - **Kidney transplantation under special circumstances**  
Chairs: **Zivko Popov & Jadranka Buturovic Ponikvar**

17:40-18:00 - Kidney transplantation within COVID epidemy - **Saso Dohcev** (N. Macedonia)

- 18:00-18:20 -** Pregnancy in kidney transplant recipients –  
**Mirjana Lausevic** (Serbia)
- 18:20-18:40 -** Are there anesthesiological considerations that can improve kidney graft survival? - **Aleksandra Gavrilovska - Brzanov** (N. Macedonia)
- 18:40-18:50 -** OP - Factors affecting Covid antibody response in kidney transplant and dialysis patients. **Selmani B1, Seferi S1, Duraku A1, Greca E1**. Department of Nephrology, Dialysis and Transplantation, UHC "Mother Theresa", Tirana, Albania
- 17:40-18:40 -** **CKD and RRT complications (I) – Small hall – SKALA II**  
Chairs: **Velibor Tasic & Svetlana Pavleska Kuzmanoskas**

### E-Poster session

1. Navigating the complexities of MPGN associated with scleroderma: a clinical insight.  
**Elda Cule1, Merita Rroji2**  
1. Hygeia Hospital Tirana, Albania 2. University Hospital "Mother Tereza" Tirana, Albania
2. Acute interstitial nephritis requiring hemodialysis as a primary presentation of covid-19 infection: a case report.  
**V. Çadri1, E. Rista2, N. Pasko1, E. Rabeta1, K. Saliq1, I. Rrugeja3, M. Ikonimi3, A. Strakosha1**  
1. Department of Nephrology, University Hospital Center "Mother Teresa", Tirana, Albania 2. Department of Nephrology, Hygeia Hospital, Tirana, Albania 3. Department of Pathological Anatomy, University Hospital Center "Mother Teresa", Tirana, Albania
3. The role of renal biopsy in acute kidney injury.  
**P. Megerov, B. Zlatkov, Zh. Filipov, M. Petrova, I. Marinova, A. Hadzipantelis, V. Yordanova, M. Stefanov, E. Pascalev.**  
Nephrology and transplantation clinic, University hospital "Aleksandrovska"
4. Predictive factors for the occurrence of post-traumatic acute kidney injury.  
**N. Pasko, E. Rista, V. Kaloshi, V. Cadri, M. Plaku, A. Strakosha.**  
Service of Nephrology, UHC Tirana, Albania
5. Serum visfatin as a non-traditional biomarker in chronic kidney disease.  
**P. Petrov 1,2, S. Danailova1,2, S. Staykova1,2.** 1Clinic of Nephrology, University Hospital "St. Marina" – Varna, 2Medical University "Prof. Dr. Paraskev Stoyanov" – Varna
6. Dapagliflosin in complex therapy of patient with CKD, DM and HF.  
**R. Chakarova, M. Yordanov, G. Bozova, R. Robeva.**  
Clinic of nephrology, Military Medical Academy, Sofia

7. Colchicine toxicity in a dialysis patient: a case report.

**E. Rista<sup>1</sup>, V. Cadri<sup>2</sup>, K. Sali<sup>2</sup>, E. Hoxha<sup>2</sup>, B. Dyrmishi<sup>1</sup>, A. Strakosha<sup>2</sup>, N. Thereska<sup>1</sup>**

1. Department of Nephrology, Hygeia Hospital, Tirana, Albania 2. Department of Nephrology, "Mother Theresa" Tirana, Albania Contact Author: Department of Nephrology, Hygeia Hospital, Tirana, Albania

8. Optimizing heart failure management in ESRD: a case study on valsartan/sacubitril therapy in dialysis patients.

**Elda Cule<sup>1</sup>, Merita Rroji<sup>2</sup>**

1.Hygeia Hospital, Tirana, Albania 2.University Hospital "Mother Tereza", Department of Nephrology, Tirana, Albania I

9. Chyloperitoneum in peritoneal dialysis secondary to calcium antagonists: a clinical case.

**P. Megerov, B. Zlatkov, Zh. Filipov, M. Petrova, L. Hristova, I. Marinova,**

**A. Hadzipantelis, V. Yordanova, M. Stefanov, P. Angelova, E. Pascalev.**

Nephrology and transplantation department, Alexandrovska hospital, Sofija, Bulgaria

10. Autologous peripheral stem cell transplantation in morphologically verified renal AL – amyloidosis.

**Q. Dimieva - Dineva<sup>1,2</sup>, S. Danailova<sup>1,2</sup>, P. Petrov<sup>1,2</sup>, S. Staykova<sup>1,2</sup>.**

1Clinic of Nephrology, University Hospital "St. Marina" – Varna, 2Medical University "Prof. Dr. Paraskev Stoyanov" – Varna

11. Prevalence and association of risk factors for the occurrence of sarcopenia in patients on chronic hemodialysis program.

**Z. Dimitrijević, J. Randjelović, K. Paunović, E. Kostić, B. Mitić.**

Clinic for nephrology, University Clinical center Niš, Serbia

12. Montreal Cognitive Assessment as screening instrument for cognitive impairment in chronic kidney disease patients. **Marinela Knežević.**

Clinic of Neurology, Military Medical Academy, Belgrade, Serbia

**April 7th, 2024 - Sunday**

8:30-9:35 –

**Vascular accesses**

**Chairs: Rafael Ponikvar & Petar Dejanov**

8:30-8:45-

Vascular access for hemodialysis in elderly -

**Vladimir Pushevski** (N. Macedonia)

8:45-9:05-

Nephrologists with surgical skills: creating and repairing

- 9:05-9:20 - arteriovenous fistula and graft - **Rafael Ponikvar** (Slovenia)  
The use of blood flow rate as predictor for successful creation and maturation of arteriovenous fistula -  
**Nikola Gjorgjievski** (N. Macedonia)
- 9:20-9:35 - OP - Follow up of the different vascular access modalities in hemodialysis - **Petar Dejanov** (N. Macedonia)

9:40-11:35 -

**CKD, RRT and KTx (I)**Chairs: **Irena Rambabova Bushljetik & Lada Trajceska****Oral presentations**

1. The impact of hyperuricemia and high body mass index on patients with contrast associated acute kidney injury after primary percutaneous coronary intervention.  
**V. Çadri<sup>1</sup>, L. Toska<sup>1</sup>, E. Rista<sup>2</sup>, N. Pasko<sup>1</sup>, M. Barbullushi<sup>1</sup>, A. Dibra<sup>3</sup>, A. Strakosha<sup>1</sup>**  
1. Department of Nephrology, University Hospital Center "Mother Teresa", Tirana, Albania 2. Department of Nephrology, Hygeia Hospital, Tirana, Albania 3. Department of Cardiology-Intensive Care Unit, University Hospital Center "Mother Teresa", Tirana, Albania Contact Author: Department of Nephrology, University Hospital Center "Mother Teresa", Tirana,
2. Anca-associated vasculitides – a big challenge to treat. Our single-center tertiary care experience. **V. Yordanova, M. Stefanov, I. Marinova, P. Megerov, J. Filipov, B. Zlatkov, M. Petrova, A. Iliev, L. Hristova, A. Hatzipantelis, P. Angelova, R. Grigorova, E. Paskalev.**  
Department of Nephrology and Transplantation, Aleksandrovska Hospital.
3. Factors associated with anemia in kidney transplant patients.  
**P. Megerov, J. Filipov, B. Zlatkov, I. Marinova, M. Petrova, A. Hatzipantelis, E. Paskalev.**  
Clinic of nephrology and transplantation, UMHAT "Alexandrovska" – Sofia, Bulgaria.
4. Coronavirus disease- 19 (covid- 19) affect graft function in kidney transplant patients.  
**Severova G, Nikolov I, Trajceska L, Dzekova-Vidimliski P, Sterjova MarkovskaZ, Karanfilovski V, Sulejman S, Rambabova - Bushljetik I and Spasovski G.**  
University Clinic of Nephrology, Un. Sts Cyril and Methodius, Skopje, N. Macedonia
5. Tuberos sclerosi complex – characteristic for Bulgaria.  
**M. Stefanov, I. Marinova, P. Megerov, V. Yordanova, J. Filipov, B. Zlatkov, M. Petrova, A. Iliev, L. Hristova, A. Hatzipantelis, P. Angelova, R. Grigorova, S. Slavova, E. Paskalev.**  
Nephrology and transplantation clinic, University hospital "Aleksandrovska"

- 6.** Diagnostic and treatment challenges of Fabry disease in North Macedonia.  
**N. Gjorgjievski<sup>1</sup>, V. Karanfilovski<sup>1</sup>, P. Dzekova-Vidimliski<sup>1</sup>, G. Severova<sup>1</sup>, T. Arsov<sup>2</sup>, P. Dejanov<sup>1</sup>, G. Selim<sup>1</sup>, G. Spasovski<sup>1</sup>, I. G. Nikolov<sup>1</sup>.**  
1University Clinic of Nephrology, Faculty of Medicine, University Ss. Cyril and Methodius in Skopje, North Macedonia, 2Faculty of Medical Sciences, University Goce Delcev in Shtip, N. Macedonia.
- 7.** Predictors of valvular calcification in ESRD patients undergoing hemodialysis.  
**E. Rista<sup>1</sup>, V. Cadri<sup>2</sup>, K. Saliaj<sup>2</sup>, E. Cule<sup>1</sup>, E. Hoxha<sup>2</sup>, S. Malaj<sup>1</sup>,**  
1Department of Nephrology, Hygeia Hospital, 2Department of Nephrology, "Mother Theresa" Hospital, Tirana, Albania.
- 8.** Peritoneal dialysis in Bulgaria.  
**S. Krivoshiev<sup>1</sup>, E. Paskalev<sup>2</sup>, A. Osichenko<sup>3</sup>, S. Staykova<sup>4</sup>.**  
1Dialysis Clinic, University Hospital "Tsaritsa Joanna – ISUL", Sofia, Bulgaria, 2Department of Nephrology and Transplantation, University Hospital "Alexandrovska", Sofia, Bulgaria, 3Department of Nephrology and Transplantation, University Hospital "Alexandrovska", Sofia, Bulgaria, 4Department of Nephrology and Dialysis, University Hospital "Sv. Marina", Varna, Bulgaria.
- 9.** Individualized approach to dialysate electrolyte concentration.  
**N. Smokovska.** Diaverum, N. Macedonia.
- 10.** Comparison between different methods of calculating KT/V and URR in evaluating haemodialysis adequacy.  
**J. Usprcov, V. Pushevski, Z. Shterjova-Markovska, A. Karanfilovik, A. Canevska-Taneska, S. Filipovski, L. Trajceska, I. Rambabova Bushljetik.**  
University Clinic of Nephrology, Un. Sts Cyril and Methodius, Skopje, N. Macedonia
- 11.** Efficacy and tolerability of direct-acting antivirals in hemodialysis patients with chronic hepatitis C.  
**V. Tomanoski, G. Gjorgjievska, V. Krecova, M. Nakovska, A. Andonoski, J. Zvezdakovska, A. Kachakova, S. Kepeska, M. Micajkova-Panova, G. Kjamili, Sh. Jagupi, L. Veseli, N. Trifunovska.**  
NefroPlusHaemodialysis units, N. Macedonia

11:35-11:50-

Coffee break



11:50-13:35 –

**CKD and RRT complications (II)**

Chairs: Zvezdana Petronijevic &amp; Vesna Ristovska

**E - Poster session**

1. The importance of renal biopsy in patients with diabetes mellitus.  
**V. Ristovska, P. Dzekova-Vidimliski, Z. Sterjova-Markovska, M. Milenkova-Bogojevska, B. Memedi, G. Stefanoska-Taskoska, A. Stojanoska-Severova, Z. Janevski.**  
Department of Nephrology, Medical Faculty, University "Sts. Cyril and Methodius" Skopje, N. Macedonia
2. The role of electron microscopy in diagnosis of glomerular diseases.  
**V. Ristovska<sup>1</sup>, P. Dzekova Vidimliski<sup>1</sup>, G. Petrushevska<sup>2</sup>.**  
<sup>1</sup>Department for Nephrology, <sup>2</sup>Institute of Pathology, Medical Faculty, University Sts Cyril and Methodius, Skopje, N. Macedonia
3. Adrenal crisis due to Addison's disease presenting acute renal failure: a rare presentation.  
**1N. Eftimovska-Otovikj, 1E. Poposka, 1B. Popovska, 1E. Nikolova, 2I. Mickovski,**  
<sup>1</sup>General City Hospital 8 Septemvri –Skopje, N. Macedonia; <sup>2</sup>Faculty of medical sciences University „GoceDelcev“ Stip, N. Macedonia
4. Case report: acute kidney injury secondary to myxedema accompanying rhabdomyolysis.  
**1N. Eftimovska-Otovikj, 1E. Poposka, 1B. Popovska, 1E. Nikolova, 2I. Mickovski, 1R. Miloshevska**  
<sup>1</sup>General City Hospital 8 Septemvri –Skopje, N. Macedonia;  
<sup>2</sup>Faculty of medical science University „GoceDelcev“ Stip, N. Macedonia
5. Case study of woman presenting with bilateral kidney tumors: Birt-Hogg-Dube syndrome.  
**N. Eftimovska-Otovikj, E. Poposka, B. Popovska, E. Nikolova, O. Ristevski.**  
General City Hospital 8 Septemvri –Skopje, N. Macedonia
6. Cholestasis associated with acute pyelonephritis – case presentation.  
**A. Stojanoska Severova, N. Gjorgjievski, M. Milenkova Bogojevska, G. Severova, P. Dzekova-Vidimliski, I. Rambabova Bushljetik, V. Ristovska, G. Spasovski.**  
University Clinic of Nephrology, Skopje, N.Macedonia
7. Association of autosomal dominant polycystic kidney disease and abdominal aortic aneurysm. **Z. Shterjova Markovska<sup>1</sup>, I. Rambabova Bushljetik<sup>1</sup>, G. Severova<sup>1</sup>, L. Trajcevska<sup>1</sup>, I. Nikolov<sup>1</sup>, V. Karanfilovski<sup>1</sup>, S. Sulejman<sup>1</sup>, J. Usprcov<sup>1</sup>, Z. Janevski<sup>1</sup>, A. Canevska<sup>1</sup>, A. Karanfilovikj<sup>1</sup>, S. Krstevska Balkanov<sup>2</sup>, G. Spasovski<sup>1</sup>.**  
<sup>1</sup>University clinic of Nephrology, <sup>2</sup>University clinic of Hematology, N. Macedonia

8. Association between membranoproliferative glomerulonephritis and colorectal cancer – case report.

**Lj. Naunovska, V. Karanfilovski, I. Zafirova, A. Stojanoska Severova, M. Milenkova Bogojevska, P. Dzekova-Vidimliski, V. Ristovska, S. Suleyman, Z. Sterjova Markovska, I. Rambabova Bushljetik and G. Severova.**  
University Clinic of Nephrology, Skopje, N. Macedonia.

9. Hemorrhagic fever with renal syndrome and coexisting pulmonary syndrome: unusual presentation of Hantavirus infection.

**V. Karanfilovski, S. Suleyman, Z. Janevski, N. Gjorgjievski, Z. Sterjova Markovska, G. Severova, I. G. Nikolov, L. Trajceska, I. Rambabova Bushljetik and G. Spasovski.**  
1 University Clinic of Nephrology, Skopje, N. Macedonia

10. Mixed pulmonary infection in a patient with successfully treated recurrence of Focal Segmental Glomerulosclerosis on kidney allograft.

**G. Severova, V. Karanfilovski, S. Suleyman, Z. Sterjova Markovska, I. G. Nikolov, L. Trajceska, G. Selim, Z. Petronijevic, A. Karanfilovik, A. Canevska Tanevska, B. Bexheti, V. Trajkovska, B. Andonovska, I. Rambabova Bushljetik and G. Spasovski.**  
University Clinic of Nephrology, Skopje, N. Macedonia.

11. Chronic hyperkalemia in chronic kidney disease.

**A. Memeti, S. Sulejman, A. Karanfilovik, V. Karanfilovski, A. Stojanoska, Z. Sterjova, M. Milenkova, J. Usprcov, A. Spasovska, Z. Janevski, A. Canevska<sup>1</sup>, L. Trajceska, I. Rambabova Bushljetik**  
University clinic of nephrology, Faculty of Medicine, University, Ss. Cyril and Methodius", Skopje, N. Macedonia.

12. Annual change of estimated GFR in healthy individuals.

**S. Filipovski, S. Sulejman, V. Karanfilovski, Z. Shterjova, A. Karanfilovik, G. Severova, I. Nikolov, I. Rambabova Bushljetik, G. Spasovski.**  
Clinic of nephrology, Faculty of Medicine, University „Ss. Cyril and Methodius“, Skopje, N. Macedonia

13. Referral to nephrologist and kidney function decline in donors in 5 years of follow up.

**S. Filipovski, Z. Shterjova, G. Severova, I. Nikolov, V. Karanfilovski, S. Sulejman, I. Rambabova Bushljetik, L. Trajceska, G. Spasovski.**  
University clinic of nephrology Faculty of Medicine, University , Ss. Cyril and Methodius", Skopje, N. Macedonia

14. A case report: severe hypokalemic paralysis in young adult -renal disease or not.

**A. S. Vasilova, A. Karanfilovikj, M. M. Bogojevska, A. C. Taneska, B. Bexheti, A. Memeti, S. P. Kuzmanoska, Z. Petronijevikj, B. Gerasimovska, Gj. Selim, I. Rambabova Bushljetik**  
University Clinic of Nephrology, Skopje, N. Macedonia.

- 15.** Encouraging self-administration of erythropoietin by creating information brochure for predialysis CKD patients.  
**A. Karanfilovikj, L. Trajcheska, S. Sulejman, A. Canevska Taneska, M. M. Bogojevska, A. Spasovska Vasilova, Z. Shterjova Markovska, J. Usprcov, V. Karanfilovski, A. Stojanoska Severova, Z. Janevski, A. Memeti, S. Filipovski, B. Bedzeti, I. Rambabova Bushljetik.**  
University Clinic of Nephrology, Skopje, N. Macedonia.
- 16.** Hemodialysis patient with an abdominal aortic aneurysm-case report.  
**K. Petrova, M. Nedelkoska, N. Misovska.** Diaverum, N. Macedonia
- 17.** Uncommon co-occurrence: endogenous Cushing's syndrome in a systemic lupus erythematosus patient undergoing haemodialysis.  
**E. Taseva Stoilkova, M. Trajkova Petkovska, T. Kjosevska, M. Krzhovska Tunev, N. Misovska.** Diaverum, N. Macedonia
- 18.** Bardet-Biedl syndrome – a rare case with hearing loss  
**Z. Petronijevic<sup>1</sup>, V. Tasic<sup>2</sup>, J. Ćomić<sup>3</sup>, J. Hoefele<sup>3</sup>**  
<sup>1</sup>University Clinic for Nephrology, <sup>2</sup>University Children's Hospital, Faculty of Medicine, Ss Cyril and Methodius University of Skopje, Skopje, N. Macedonia, <sup>3</sup>Institute of Human Genetics, Klinikum rechts der Isar, Technical University of Munich, Germany
- 19.** Life-threatening acute kidney injury in Weil's disease - a rare case with positive outcome  
**A. C. Taneska, Z. Petronijevikj, B. Bexheti, I. R. Bushljetikj, A. Karanfilovikj, Gj. Selim**  
University Clinic for Nephrology, Faculty of Medicine, Ss Cyril and Methodius University of Skopje, Skopje, N. Macedonia
- 20.** Effect of lespedeza capitata extract on optimal kidney nephron function and slowing kidney disease progress  
**J. Neskovski<sup>1</sup>, N. Camili<sup>1</sup>, D. Apostoloski<sup>1</sup>, M. Krstevska<sup>2</sup>, S. Trimcheska<sup>1</sup>**  
<sup>1</sup>PZO Sanatrix, Gostivar, <sup>2</sup>PZU MedikaS, Skopje, N. Macedonia
- 21.** Short term treatment of chronic hyperkalemia with oral potassium binder in chronic kidney disease patients.  
**S. Sulejman, A. Karanfilovik, A. Stojanoska, M. Milenkova, J. Usprcov, B. Kolonja, I. Salkoski, H. Minovska, A. Memeti, A. Spasovska.**  
Clinic for nephrology, Faculty of Medicine, University Ss. Cyril and Methodius, Skopje, N. Macedonia

### THE IMPORTANCE OF RENAL BIOPSY IN PATIENTS WITH DIABETES MELLITUS

V. Ristovska, P. Dzekova-Vidimliski, Z. Sterjova-Markovska, M. Milenkova-Bogojevska, B. Memedi, G. Stefanoska-Taskoska, A. Stojanoska-Severova, Z. Janevski

Department of Nephrology, Faculty of Medicine, University Sts. Cyril and Methodius Skopje, N. Macedonia

PP

**Introduction.** The diagnosis of diabetic kidney disease (DKD) is most often made clinically. However, there is growing awareness of the prevalence of non-diabetic kidney disease (NDKD) with or without concomitant diabetic nephropathy (DN) in patients with diabetes. Proteinuria and renal dysfunction is common in patients with diabetes mellitus. In most of the cases diabetic nephropathy is the cause of that dysfunction, but some of the cases present other non-diabetic renal disease. Renal biopsy in diabetic patients has presented variety of glomerular changes. Immunosuppressants used for treatment of the glomerular diseases may be associated with complications.

**Case report.** Herein, we review the prevalence and presentation of NDKD in diabetic patients, with a focus on glomerular lesions, and discuss the ways in which diabetes can affect the diagnosis and management of these conditions. Diabetic patients with glomerular disease represent a sizable patient population. We report on 2 cases with diabetes mellitus with non-diabetic kidney disease confirmed with renal biopsy. The first case was a 58-year-old man, admitted to our Department with a history of diabetes, with actual presence of fatigue, inappetence and edema and proteinuria 6 g/24 hours. Renal function was diminished, creatinine values were 226 micromol/l, with GFR 38 ml/min. Second case was a 53 year -old-man with edema, hypertension, atrial fibrillation and breathlessness, was treated with cardiologic therapy, but the edema was still present. Creatinin value was 126 micromol/l and proteinuria was 4,36 g/l (11,94g/24hours). In both cases, renal biopsy was performed and the histopathologic analysis showed membranoproliferative glomerulonephritis with presence of diabetic glomerulonephritis.

The patients were treated with corticosteroids as pulse therapy, cyclophosphamide, diuretics and after that the clinical signs were stabilized.

**Conclusion.** The authors suggest that the renal biopsy should be performed in diabetic patients with unusual features, such as proteinuria without other signs of diabetic disorders. Renal histology can be of fundamental importance to both treatment and prognosis of the disease.

### THE ROLE OF ELECTRON MICROSCOPY IN DIAGNOSIS OF GLOMERULAR DISEASES

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PP

**Introduction.** The renal biopsy is a diagnostic method to provide information on type, activity and the intensity of the disease. The crucial role that electron microscopy plays in diagnostic renal pathology is for ultrastructural examination of kidney biopsies, which is important for recognition of certain critical findings not detected by light microscopy. In many situations it provides additional important data necessary for proper treatment of the diseases. The value of the electron microscopy has been widely emphasized.

**Methods.** In order to establish the role of electron microscopy in diagnosis of glomerular diseases, we reviewed retrospectively 96 renal biopsies, done in the Department of Nephrology. All cases were analyzed by light microscopy, immunofluorescence and electron microscopy. Eight of the samples were not adequate for estimation. Also, the clinical feature and laboratory findings were evaluated.

**Results.** Electron microscopy contributed for diagnosis in 72 of the cases (75 %), confirming the preliminary diagnosis. The clinical and laboratory data and light microscopy findings were not enough for diagnosis in 24 cases (25 %). It can be considered that electron microscopy was diagnostic or essential for diagnosis in 25% of the cases, corresponding to diagnosis in 75 % of the cases and 100% of hereditary glomerulopathy.

**Conclusion.** The results showed that in 25% of glomerulopathies, the ultrastructural study provides important diagnostic information, Electron microscopy still remains a useful tool in the diagnosis of glomerular disease.

### ADRENAL CRISIS DUE TO ADDISON'S DISEASE PRESENTING WITH ACUTE RENAL FAILURE: A RARE PRESENTATION

N. Eftimovska - Otovikj<sup>1</sup>, E. Poposka<sup>1</sup>, B. Popovska<sup>1</sup>, E. Nikolova<sup>1</sup>, I. Mickovski<sup>2</sup>

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PP

**Introduction.** AKI as a result of an adrenal crisis due to Addison's disease has been rarely reported.

**Case report.** A 38-years-old man with past medical history of congenital adrenal insufficiency and bilateral orchiectomy presented to emergency confused, measured temperature 39C, abdominal pain two days prior to admission, followed by severe nausea and vomiting. Detailed history revealed that he wasn't taking fludrocortisone for few months. He had low BP (90/50mm Hg), HR 150/min, for which 2L of normal saline was given. Laboratory showed creatinine 393

μmol/L, BUN 12 mmol/L, sodium of 129 mmol/l, CK 3710 U/L, CK-MB 314 U/L, CRP 111, Le 22.7. Other laboratory results and urine were unremarkable. Pancultures were negative. Chest X-ray confirmed pneumonia. He underwent upper GI endoscopy due to melena, showing ulcer ventriculi Forrest III. High doses of hydrocortisone, antibiotics and aggressive intravenous fluids led to improved kidney function and eunatriemia within 10 days (creatinine 84 μmol/L, BUN 7.6 mmol/L, CK 133 U/L, CK-MB 25 U/L, Na 139 mmol/L, CRP 16.1). No underlying cause of this rhabdomyolysis was identified, so it was considered secondary to Addisonian crisis induced hyponatremia. **Conclusion.** We report hyponatremia-induced rhabdomyolysis in adrenal crisis resulted with AKI and successfully resolved by conservative treatment.

#### **CASE REPORT: ACUTE KIDNEY INJURY SECONDARY TO MYXEDEMA ACCOMPANING RHABDOMYOLYSIS**

N. Eftimovska-Otovikj<sup>1</sup>, E. Poposka<sup>1</sup>, B. Popovska<sup>1</sup>, E. Nikolova<sup>1</sup>, I. Mickovski<sup>2</sup>, R. Miloshevska<sup>1</sup>

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PP

**Introduction.** Acute kidney injury (AKI) occurring in hypothyroidism is uncommon, because association between hypothyroidism and AKI is rare.

**Case report.** A 64-year-old man presented with 2 weeks history of weakness, malaise, lack of appetite and oedema. PMH: hypertension and coronary stenosing. Physical examination: grayish-brown dry skin, peripheral oedema, slow thought and speaking. Laboratory examinations: elevated CK (4158 U/l), CK-MB (683 U/l), creatinine (675 μmol/L), urea (35 mmol/L), AST (1671U/L), ALT (968 U/l) and LDH (1477 U/ml). Free T4 was very low (FT4:0.08 ng/dL) and thyroid-stimulating hormone was high (TSH:150 μIU/mL). Hypothyroidism-induced rhabdomyolysis resulted in AKI. Intravenous fluids, urinary alkalization and substitution with L-thyroxine initiation dose of 100 ug/d and corticosteroids (urbason 2x40 mg/d) were started. All hepatotoxic agents were removed. Forced diuresis with furosemide led to a progressive improvement in symptoms, but renal function worsened (urea 39.6 mmol/L, creatinine 841 μmol/L, K 4.5 mmol/L) requiring hemodialysis. Four hemodialysis sessions and thyroxine substitution led to partial recovery of renal function (creatinine 267 μmol/L, urea 21.9 mmol/L). Hepatic enzymes and CK fell to normal values and thyroid hormones increased (T3: 1,16 ng/dL with TSH:50.2 μIU/mL and anti TPO:1300 U/ml).

**Conclusion.** Hypothyroidism related AKI due to rhabdomyolysis is reversible, if correctly diagnosed. We describe a case of severe autoimmune hypothyroidism and AKI requiring hemodialysis, where thyroid hormone replacement resulted in partial restoration of the renal function.

#### **CASE STUDY OF WOMAN PRESENTING WITH BILATERAL KIDNEY TUMORS: BIRT-HOGG-DUBE SYNDROME**

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**Introduction.** Birt-Hogg-Dubé syndrome (BHD) is rare autosomal dominant genetic disorder caused by germline mutations in the folliculin (FLCN) protein gene, causing renal tumors, cutaneous fibrofolliculomas and lung cysts with or without spontaneous pneumothorax.

**Case report.** A 34-year-old woman with no medical history was admitted to nephrology department in our hospital due to urosepsis accompanied with high temperature 40°C, hypotension that lasted for 7 days and multiple white domeshaped papules on the scalp. Laboratory analysis confirmed increased inflammatory biomarkers (procalcitonin, C-reactive protein, fibrinogen) and positive urine and blood culture with isolated E. coli. After admission, renal ultrasound showed multiple mixed-density changes in both kidney suspected for renal abscess, which were confirmed by renal computed tomography. Under antibiotic therapy all inflammatory markers fell to reference range, but renal changes persisted. Magnet resonance was performed and bilateral renal cell carcinoma (RCC) or oncocytoma were suspected. Patient went under bilateral renal tumorectomy surgery. The multidisciplinary approach, including nephrology, radiology, dermatology and pathology department, set a working diagnosis of BHD syndrome, which was confirmed by genetic testing and histopathology (hybrid oncocytoma on left kidney plus clear cell RCC on right kidney) later.

**Conclusion.** We reported the case of woman who underwent renal tumorectomy due to BHD syndrome and no occurrence of other symptoms in the follow-up period of 1 year which highlighted the importance of multidisciplinary approach for diagnosis and treatment of BHD.

#### **CHOLESTASIS ASSOCIATED WITH ACUTE PYELONEPHRITIS – CASE PRESENTATION**

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PP

**Introduction.** Cholestasis is a clinical syndrome characterized by disturbance in production, secretion or drainage of bile in the duodenum. The following is a presentation of a patient in whom sepsis caused intrahepatic cholestasis.