

CHISINAU, REPUBLIC OF MOLDOVA, JUNE 7-9, 2023

# ABSTRACT BOOK

THE 37<sup>TH</sup> BALKAN MEDICAL WEEK  
“PERSPECTIVES OF THE BALKAN MEDICINE  
IN THE POST COVID-19 ERA”

&

THE 8<sup>TH</sup> CONGRESS ON UROLOGY, DIALYSIS  
AND KIDNEY TRANSPLANT FROM  
THE REPUBLIC OF MOLDOVA WITH  
INTERNATIONAL PARTICIPATION  
“NEW HORIZONS IN UROLOGY”



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# Archives of the BALKAN MEDICAL UNION

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**The 37<sup>th</sup> Balkan Medical Week  
“PERSPECTIVES OF THE BALKAN MEDICINE  
IN THE POST COVID-19 ERA”**

**&**

**The 8<sup>th</sup> Congress on Urology, Dialysis and Kidney Transplant from  
the Republic of Moldova with international participation  
“NEW HORIZONS IN UROLOGY”**

**ORGANIZED BY**

**The National Section from the Republic of Moldova  
of the Balkan Medical Union  
and the Moldovan Society of Urologists**

*June 7-9, 2023*

*Chisinau, Republic of Moldova*

**ABSTRACT BOOK**



## WELCOME MESSAGE



Dear colleagues, distinguished guests,

It is my greatest honor and pleasure to invite you to the 8<sup>th</sup> International Congress on Urology, Dialysis and Kidney Transplantation with international participation, and the 37<sup>th</sup> Balkan Medical Week that will be held on June 7-9, 2023 in Chisinau, Republic of Moldova. The congress is organized with the support of the Ministry of Health of the Republic of Moldova, *Nicolae Testemitanu* State University of Medicine and Pharmacy and the Balkan Medical Union.

The Congress on Urology, Dialysis and Kidney Transplantation is hosted traditionally by the Moldovan Society of Urologists at the national level every four years, aiming to bring the most important scientific and practical aspects to more than 300 specialists from Moldova and from abroad.

This year, the scientific forum will be dedicated to the overarching theme “New Horizons in Urology”.

The 37<sup>th</sup> Balkan Medical Week, entitled “Perspectives of Balkan Medicine in the Post COVID-19 Era”, aims to promote cooperation, exchange of experience and friendship between medical doctors of Balkan countries, to inform specialists about current national and international scientific achievements in medical and pharmaceutical fields and to improve the quality of health care provided to the population of the Balkan region.

The program of the current Balkan Medical Week includes a wide range of up-to-the-minute topics in: Basic Medicine, Family Medicine, Cardiology, Surgery, Pediatric Surgery, Anesthesiology and Reanimation, and Emergency Medicine, Gastroenterology, Hepatology, and Infectious Diseases, Obstetrics and Gynecology, Pediatrics and Neonatology, Ophthalmology and Otolaryngology, Neurology, Neurosurgery, Rheumatology, Hematology and Transfusion, Dermatovenereology, Medical Rehabilitation and Physical Medicine, Dentistry, Pharmacy and Preventive Medicine.

The event will be attended by selected international experts who will lead courses, lectures and workshops, and outline the most recent advances in urology and other above-mentioned fields. Moreover, Balkan Medical Union Board members will honor the Congress with their presence. About 3000 specialists are expected to participate this year, including students, PhD fellows and resident doctors from different specialties.

We are looking forward to welcoming you at the congresses and are strongly convinced that our distinguished experts will fully meet your expectations, create opportunities for interdisciplinary professional communication and, implementation of innovations in medicine and pharmacy, will help achieving high results in scientific research, and clinical practice.

Your participation will make a significant contribution to these scientific events and the achievement of the goals that were set, giving them undeniable value.

Yours respectfully,

President of the congresses

*Emil CEBAN*

Emil CEBAN

PhD, Professor, Corresponding Member  
of the Academy of Sciences of Moldova,  
Rector of *Nicolae Testemitanu* University



MINISTRY OF HEALTH OF  
THE REPUBLIC OF MOLDOVA



MOLDOVAN SOCIETY  
OF UROLOGISTS



NICOLAE TESTEMITANU STATE UNIVERSITY  
OF MEDICINE AND PHARMACY  
OF THE REPUBLIC OF MOLDOVA



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KIDNEY TRANSPLANT FROM THE REPUBLIC OF MOLDOVA  
WITH INTERNATIONAL PARTICIPATION

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*June 7-9, 2023, Chisinau*



# **The 8<sup>th</sup> Congress on Urology, Dialysis and Kidney Transplant from the Republic of Moldova with International Participation**

## **“NEW HORIZONS IN UROLOGY”**

**June 7-9, 2023**

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## HYPOPLASIA OF THE LEFT KIDNEY ASSOCIATED WITH CHRONIC KIDNEY DISEASE AND OBESITY

Svetlana BENEȘ<sup>1</sup>, Angela CIUNTU<sup>1,2</sup>, Adriana IGNAT<sup>1</sup>, Jana BERNIC<sup>1,2</sup>, Tatiana BĂLUȚEL<sup>1</sup>,  
Ludmila BOCEAROVA<sup>1</sup>, Valeriu GAVRILUȚA<sup>2</sup>

<sup>1</sup>*Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova, Department of Paediatrics,

<sup>2</sup>Institute of Mother and Child, Chisinau, Republic of Moldova

### ABSTRACT

**Introduction.** Kidney malformations are commonly identified in the antenatal period and account for 20-30% of all detectable anomalies. Both renal dysplasia and renal hypoplasia account for a significant proportion of chronic kidney disease (CKD) in children. Currently, their appearance is attributed to environmental factors in 10%, genetic and chromosome factors - 10%, and in 40-60% remain idiopathic. The disease may lead to glomerular hyperfiltration associated with hypertension, proteinuria and, in the long term, with chronic kidney failure. **Material and methods.** Presentation of a clinical case of late diagnosed renal hypoplasia associated with CKD. **Results.** 14-year-old male patient admitted to the Nephrology Department of Mother and Child Institute. On physical examination it was found pale, dry skin, with suborbital circles, reduced turgor and elasticity of the skin, obesity (BMI-

30.0), high blood pressure – 135/90 mm/Hg (99<sup>th</sup> percentile). Laboratory test results showed hypercholesterolaemia -7.05mmol/L, blood urea -6,6 mmol/l, creatinine -0,098 mmol/l, glomerular filtration rate (GFR)-77ml/min/1.73m<sup>2</sup>. Urinalysis showed leucocytes 20-22 f/w. The imagistic exam with ultrasound detected small size of the left kidney (68x40 mm), the cortico-medullary layer 12 mm, with the pyelocalic structures deformed. Intravenous urography confirmed the small aspect of the left kidney, slightly rotated, without viewing the ureter and the function of concentration and evacuation slightly slowed. Subsequently evaluated by renal scintigraphy, was established a reduction of the function with 20% of the hypoplastic kidney. **Conclusion.** Children with unilateral kidney dysplasia have a higher risk for progression of CKD. The follow-up visits should include a physical exam, blood pressure measurement, proteinuria/albuminuria screening and a sonographic assessment of the kidney.

## CLINICAL-PARACLINIC DIAGNOSIS IN RENAL TUMORS IN CHILDREN

Jana BERNIC<sup>1,2,3</sup>, Angela CIUNTU<sup>1,3</sup>, Victor ROLLER<sup>2,3</sup>, Adrian REVENCO<sup>2,3</sup>,  
Tatiana BĂLUȚEL<sup>1</sup>, Eva GUDUMAC<sup>1,2</sup>

<sup>1</sup> *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova,

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"Natalia Gheorghiu", the Urology Department,

<sup>3</sup> Institute of Mother and Child, Chisinau, Republic of Moldova

### ABSTRACT

**Introduction.** Renal tumors are on the 4<sup>th</sup> place in the structure of malignant diseases in children, constituting between 5.5–7.0%. Nephroblastoma (Wilms Tumor) has the highest frequency, accounting for 500 children per year, according to reports from the United States. **Material and methods.** The study was carried out on a group of 11 patients with renal tumors treated in the Institute of Mother and Child, the National Scientific-Practical Center of Pediatric Surgery "Natalia Gheorghiu", the Urology Department and the PHI Oncological Institute, the Oncopediatric Department. **Results.** The diagnosis of renal tumor was established in 11 patients aged 2 -10 years. At the clinical examination, the common signs were: palidity and gray tint of the skin, asymmetry of the abdomen, enlargement in the hypochondrium

and the respective flank - tumor formation with lumbar contact. Pronounced vascular drawing on the abdominal wall with the appearance of venous stasis was determined in 9 patients. In all cases, renal ultrasound showed impressive dimensions from 4.8 x 5.2 to 9.5 x 8.4 x 7.9 with deformation and asymmetry of the flank of the abdomen. Computed tomography and magnetic resonance confirmed the clinical diagnosis. In 6 patients, the tumor was of large size requiring primary polychemotherapy, subsequently surgical. The histopathological examination detected the presence of nephroblastoma in 10 children, in 1 child - angiomyolipoma. **Conclusions.** Multidisciplinary approach in order to establish correct management, can ensure an increased rate of healing in children, with the prevention of the dissemination and metastasis of renal neoplasm.

## MULTIMODAL IMPROVEMENT OF CALCIUM- PHOSPHORUS METABOLISM IN DIALYSIS PATIENTS

Petru CEPOIDA

### ABSTRACT

**Introduction.** Mineral bone disease in dialysis population correlates with high morbidity, mortality and low quality of life. As a result its successful management is an important component of dialysis curriculum. **Material and methods.** During 08.2018 – 08.2019 Chisinau dialysis center with more than 300 chronic dialysis patients introduced the following medical interventions in order to improve mineral bone disease management: hemodiafiltration (24,6% patients), i.v. paricalcitol (14,2% patients) and special normal level calcium dialysis solution (24,3% patients). **Results.** The distribution of ionized calcium in serum (normal values 1,1-1,35 mmol/l) has changed from hypocalcemia / normocalcemia / hypercalcemia equal to 33,2%/65,4%/1,4% to 16,4%/82,4%/1,2% and of phosphatemia <1,78 mmol/l / 1,78-2,5

mmol/l / > 2,5 mmol/l equal to 31,7%/38,3%/30% to 44,2%/38,2%/17,6%. In the same time the number of patients with normal values (44-147 IU/l) of alkaline phosphatase has increased from 84% till 90,1% associated with simultaneous decrease in the numbers of patients with both increased (11% till 6,7%) or decreased (5% till 3,2%) activity. There was also determined an improvement of PTH profile in dialysed patients: PTH > 76 pmol/l (10,98% vs 5,8%), PTH 47,5-76 pmol/l (13,4% vs 10,4%), PTH 9,5-47,5 pmol/l (46,47% vs 59,9%), PTH < 9,5 pmol/l (29,41% vs 23,9%). During this period there was not registered any long bone fractures in study population, comparing with 2-3 yearly determined femoral fractures in previous years. **Conclusions.** Complex approach to mineral bone disease management permits to improve this conditions' manifestations in dialysis population.

## ORIGINAL VS GENERIC ERYTHROPOIETIN COMPARISON IN DIALYSIS PATIENTS

Petru CEPOIDA

### ABSTRACT

**Introduction.** Erythropoietin stimulating agents are the cornerstone of antianemic therapy in dialysis patients. While there is a significant variability in the prices of ESA it is important to know the comparative efficacy. **Material and methods.** Unicenter retrospective comparative study of Recormon (59 patients on chronic dialysis and 12 de novo), Relipoetin (48 and 5 patients correspondingly) and Repretin (121 and 9 patients respectively) was carried out during 4 weeks both in chronic and de novo dialysis patients. All included patients were clinically stable during the study with statistically similar demographic characteristics. **Results.** Mean ESA dose in de novo patients were 10.000UA/week vs 9200UA/week vs 9400UA/week (Relipoetin/Recormon/Repretin) and during 4 weeks there was determined an increase

in hemoglobin from 78,6±4,4 till 88,6±2,23 g/l (+10,0±2,55 g/l) vs 77,9±3,1 till 89,9±3,12 g/l (+12,0±2,02 g/l) vs 79,2±3,6 till 89,8±3,73 g/l (+10,6±2,67 g/l). Therefore, the comparative efficacy of Recormon is 12:(10\*0,92)=1,30 vs Relipoetin and 12:(10,6\*0,94)=1,20 vs Repretin in de novo patients. Mean ESA dose in chronic dialysis patients were 4.330UA/week vs 4640UA/week vs 4840UA/week (Relipoetin / Recormon / Repretin) and during 4 weeks there was determined a slight modification in hemoglobin from 106,75±1,75 till 104,8±1,73 g/l vs 104,88±1,98 g/l till 103,72±1,86 g/l vs 102,15±1,32 g/l till 102,64±1,22 g/l. As a result the mean maintenance dose of Relipoetin was increased till 4960UA/week, of Recormon till 4810UA/week and of Repretin till 4860UA/week. **Conclusions.** Recormon is slightly better than studied generic ESA especially in de novo dialysis patients.

## THE ROLE OF MICROBIAL ADHESION PHENOMENON IN LITHOGENESIS

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### ABSTRACT

**Introduction.** Researchers have focused their attention on the role of inflammatory processes in the development and progression of lithogenesis. The new Lithos-system technology has gained significant interest, based on the analysis of morphological model of crystalline and non-crystalline structures in dehydrated biological fluids. With this method, we can determine signs of bacterial and fungal infections, active process of lithogenesis, composition of urine crystals, acute candidiasis of the urinary system, glomerular disorders of kidneys and renal tissue sclerosis. **Aim.** This study was performed for evaluation microbial adhesion to urothelium in patients with nephrolithiasis. **Methods.** A drop of buffer solution (pH 7.2) is applied on a glass slide to which a drop of urine containing bacteria and urothelium is added, collected from patients with nephrolithiasis. The

preparation is placed in a humid chamber (37°C, 30 minutes), then dried at the same temperature, fixed with methanol, stained with methylene blue and observed microscopical. **Results.** In 26 patients with nephrolithiasis, negative adhesion (0-1.0) was detected in 7 patients without urinary infection. In 8 patients, medium adhesion (1-10.0) was detected with *E. coli* and *Pseudomonas* infection. In 11 patients with positive adhesion (>10.0), the concomitant infection was formed by *Proteus*, *Klebsiella* and staphylococci. **Conclusions.** The process of microbial adhesion to urothelium is more frequently encountered in the urine of patients with multiple and coral-shaped stones, with Gram-negative infections, *Proteus*, *Klebsiella*. The absence of adhesion process correlates with formation of urate and cystine stones. In urine with positive and medium adhesion, the chemical component was struvite.

## COMPARATIVE ANALYSIS OF DIFFERENT FORMS OF INTRAVENOUS IRON ADMINISTRATION IN DIALYSIS PATIENTS

Petru CEPOIDA

### ABSTRACT

**Introduction.** Intravenous iron is the only internationally recommended form of iron for erythropoiesis stimulation in dialysis patients. Therefore, considering a large difference in costs, it is important to test the equivalence of original and generic forms of intravenous iron in order to choose the right one. **Material and methods.** Retrospective open-label two centers comparative trial of 2 different forms of intravenous iron (Encifer and Venofer) has been performed at BB-Dializa S.R.L. **Results.** The study included 310 patients, 167 men and 143 women aged 23-71 years old. All these patients were clinically stable and had no hospitalizations, treatment gaps or

blood transfusions during the studied period of 24 weeks. During the first 12 weeks they got Encifer (generic formula of i.v. iron sucrose) and in the following 12 weeks – Venofer (original formula of i.v. iron sucrose). General rule was 100 mg i.v. iron every 4 weeks, with some modifications depending on the levels of serum iron and ferritin. Their mean hemoglobin levels did not changed significantly during the trial. Both mean weekly doses of erythropoietin (5040 UI vs 4980 UI) and i.v. iron (34 mg vs 35 mg) were not statistically different for Encifer and Venofer respectively. **Conclusions.** Both forms of intravenous iron sucrose administered in chronic dialysis patients have shown high and in the same time equivalent efficiency in studied population.

## MANAGEMENT OF ASSOCIATED PELVIC AND URINARY TRACT INJURIES

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<sup>3</sup>Laboratory of Polytrauma, <sup>4</sup>Institute of Emergency Medicine, Chisinau, Republic of Moldova

### ABSTRACT

**Introduction.** The association of urinary tract injuries and pelvic fractures occurs in 4.4-17.26% of all associated lesions. Despite specialized medical care, some patients remain disabled. **Material and methods.** We performed a prospective study that included treatment outcomes in 62 trauma patients with pelvic fractures and urinary organs injuries. There were 57 males and 5 females. Mean patient age was  $41,57 \pm 2,18$  years ( $p < 0,05$ ). Cause of trauma: traffic accidents (79%), fall from height (16,2%) and massive collapse (4,8%). Pelvic fractures type A (AO/Tile classification) were in 6.77% ( $n = 4$ ), type B - in 33 (55.93%), type C - in 25 (37.3%), all of them being hemodynamic unstable. Urinary organs were damaged in all 62 cases. Urinary bladder contusion was in 23 (37,1%)

patients, bladder wall lesions - in 38 (61,3%), urethral ruptures - in 12 (19.4%), in 7 cases bladder rupture was associated with kidney injury. The initial management of the patients included antishock measures - bleeding stopping, perfusion and transfusion therapy, pelvic ring stabilization. **Results.** The main tactical aspects in trauma care were identified: patient stabilization, temporary pelvic fixation with external device, urinary bladder repair, packing of the lesser pelvis and drainage and control over pathological accumulation of urine in the pelvic cavity. **Conclusions.** The use of external fixation devices, for primary stabilization or for subsequent low-traumatic reposition of fragment displacements, allows to prevent possible complications associated with open osteosynthesis and provides early repair of urinary tract and quick patient mobilization.

## LES CARACTÉRISTIQUES DE L'HYDRONÉPHROSE COMME PATHOLOGIE RÉNALE

Ana-Maria ZAVTONI<sup>1</sup>, Mariana SMIȘNOI<sup>1,2</sup>

<sup>1</sup> *Nicolae Testemitanu* State University of Medicine and Pharmacy, République de Moldova

<sup>2</sup> Département de médecine interne-sémiologie

### ABSTRAITE

**Introduction.** L'hydronéphrose se manifestant par la dilatation du bassinet, la diminution des fonctions rénales et l'atrophie du parenchyme rénal, peut apparaître de façon congénitale suite à un obstacle au niveau de la jonction pyélo-urétérale ou acquise après des complications rénales (lithiase urinaire, tumeur rénale, etc.). **Matériel et méthodes.** Pour mener à bien l'étude, on a réalisé l'analyse de sources bibliographiques au niveau européen, dans le domaine médicale publiées dans la période 2015-2022 disponibles en ligne. **Résultats.** L'hydronéphrose est détectée lorsque l'infection est associée, par hasard, à la palpation d'une tumeur fluctuante, à un traumatisme rénal, évoluant de manière asymptomatique. L'hydronéphrose évolue en trois degrés, en commençant avec la dilatation du bassinet sans

modifier la fonction rénale (la pyéloectasie), puis la dilatation du bassinet et des calices avec la diminution de l'épaisseur du parenchyme rénal et le dysfonctionnement rénal (l'hydrocalyose) et au stade terminal une atrophie du parenchyme rénal. La sécrétion et la réabsorption d'urine ne sont pas affectées, mais on constate une stagnation qui favorise l'accumulation d'urine dans le bassinet. En se dilatant progressivement, le bassinet comprime le parenchyme rénal, perturbe la circulation sanguine et lymphatique avec une atrophie rénale. **Conclusions.** En cas d'hydronéphrose unilatérale, les patients se considèrent en bonne santé pendant longtemps, car le rein controlatéral compense la fonction de celui qui est affecté, l'insuffisance rénale ne se produit pas. En cas d'hydronéphrose bilatérale, elle évolue progressivement vers une insuffisance rénale chronique et suit une urémie jusqu'au décès.

## IMPACT OF SARS-COV2 INFECTION ON CHRONIC KIDNEY DISEASE

Tatiana RĂZLOG<sup>1,3</sup>, Liliana GROPPA<sup>1,2,3</sup>, Larisa ROTARU<sup>1,2,3</sup>, Sasu DORIAN<sup>1,3</sup>, Costina GROZA<sup>1,3</sup>

<sup>1</sup> *Nicolae Testemitanu* State University of Medicine and Pharmacy of the Republic of Moldova,

<sup>2</sup> Laboratory of Rheumatology,

<sup>3</sup> Republican Clinical Hospital "Timofei Mosneaga"

### ABSTRACT

**Introduction.** Patients with kidney diseases contracting SARS-CoV2 have an increased degree of severe evolution of the disease. According to studies, most patients who died due to complications of SARS-CoV2 infection had comorbidities, 20% of patients had pre-existing kidney diseases. **Aim of study.** Determination of the particularities of the evolution of SARS-CoV2 infection in patients with pre-existing kidney diseases. **Material and methods.** An analysis of articles published in the last 2 years, in the databases PubMed, SCOPUS and HINARI, was performed. The search terms were (in English): "kidney AND SARS-CoV2", "ckd AND covid-19". **Results.** Most of the studies performed have demonstrated that the most common renal complication in SARS-CoV2 infection is acute kidney injury. The severe form

of SARS-CoV2 infection was determined in 25% of people with pre-existing kidney diseases. Worsening of kidney function has been observed in patients with kidney disease who have endured COVID-19. Patients with chronic kidney disease are susceptible to any type of infection in its severe form, due to the immunocompromised state. Uremia causes a state of constant suppression of the immune system, and uremic patients have dysregulation of adaptive immunity to infections. The most common causes of death in patients with CKD associated with SARS-CoV2 infection were cardiovascular complications. **Conclusions.** All retrospective studies have identified 4 major risk factors for severe SARS-CoV2 infection: cardiovascular disease, hypertension, diabetes mellitus and chronic kidney disease. Compared to the other risk factors (CVD, hypertension, DM), CKD was found to be a major risk factor for death.

## **PROFESSOR DOCTOR EUGENIU PROCA (1927 - 2004) – “FATHER” OF THE RENAL TRANSPLANTATION IN ROMANIA**

**Nicolae – JIANU TEȘOIU**

Institute of Emergency for Cardiovascular Diseases  
Prof. Dr. C. C. Iliescu, Bucharest, Romania

### **ABSTRACT**

Eugeniu Proca (Godeni, January 12, 1927 – Bucharest, March 7, 2004), educated as surgeon anatomist and as urologist and forged in the experimental laboratory in Bucharest, with stages in London, UK (1963 - 1964) and in Boston, USA (1967), Professor of Urology (1974) and Rector (1976 - 1978) at The Institute of Medicine and Pharmacy in Bucharest, Deputy Dean (1972 - 1975) at the Faculty of Specialization and Perfecting in Medicine and Pharmacy and Ministry of Health (1978 - 1985), reaches the pinnacle of his professional carrier by performing the first human renal transplantation in Romania, in 1980, at Fundeni Clinical Hospital in Bucharest, being awarded "The Star of Romania in rank of Great Cross", and is elected President of The Romanian Society of Urology (1989 - 1998),

Full Member of The Academy of Medicine from Romania and Honorary Member of The Academy of Romania (1996). Renal transplantation is continued in our country by two of his disciples: Ioanel Sinescu, Professor of Urologic surgery, University of Medicine and Pharmacy "Carol Davila", at Fundeni Clinical Institute in Bucharest and Mihai Lucan, Professor of Urology, University of Medicine and Pharmacy "Iuliu Hatieganu", at The Institute of Urology and renal Transplantation in Cluj-Napoca, as well as by Grigore Tinica, professor of Cardiovascular surgery, University of Medicine and Pharmacy "Gr.T. Popa" in Iasi and Associated professor of Cardiovascular surgery, University of Medicine and Pharmacy "Nicolae Testemitanu" in Chisinau, Republic of Moldavia, at The Institute of Cardiovascular Diseases "George I.M. Georgescu" in Iasi.

## CHEMICAL COMPOSITION OF KIDNEY STONES IN PATIENTS WITH NEPHROLITHIASIS IN THE REPUBLIC OF MOLDOVA

P. BANOV<sup>1</sup>, V. VASILIEV<sup>1</sup>, A. GALESCU<sup>1</sup>, Diana SHEPEL<sup>2</sup>, E. CEBAN<sup>1</sup>

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<sup>2</sup>Institute of Chemistry, Republic of Moldova

### ABSTRACT

**Introduction.** The prevalence and incidence of urolithiasis vary among different countries and races and between the sexes. The lifetime incidence of urolithiasis in Middle Eastern and Western countries is 25% and 10%, respectively. However, the recurrence rates are high, reaching 50% worldwide. **Material and methods.** The study was performed in the clinic of Urology and Surgical Nephrology of "Nicolae Testemitanu" State University of Medicine and Pharmacy, "Timofei Moșneaga" Republican Clinical Hospital between January 1, 2016–2022. 120 kidney stones were analyzed; the researched material was sent to the Institute of Chemistry. The Spectrum 100 FT-IR Fourier transform infrared spectrometer

(PerkinElmer, USA) was used to determine the composition of urinary stones. **Results.** The most common were calcium oxalate calculi (total –54(45%); whewellite –45(37,5%); weddellite – 9(7,5%)), followed in frequency by uric acid (19,15,83%). Phosphate calculi were identified in 14(11,67%) cases, and contained: calcium phosphate –9(7,5%), struvite –4(3,33%), brushite – 1(0,83%) cases. Calculi of cysteine were 3(2,5%). In 30(25%) cases were identified stones of mixed composition. **Conclusions.** Calcium oxalate, uric acid and mixed uric acid and calcium oxalate calculi are the main types in Moldova. The analysis of kidney stone structure provides additional details that are crucial links to the pathogenesis. Such data would help in providing precise treatment and efficient metapylaxis.

## HOUNSFIELD DENSITY ON COMPUTER TOMOGRAPHY ARE A PREDICTIVE FACTOR FOR EFFECTIVENESS OF URINARY STONES TREATMENT WITH EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY?

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### ABSTRACT

**Introduction.** Extracorporeal Shock Wave Lithotripsy (ESWL) in nowadays is considered a successful method for treatment for kidney stones less than 2 cm and ureteral stones less than 1,5 cm. We analyzed how Hounsfield values density can influence on *stone free* rate after ESWL. **Material and methods.** Were analyzed retrospectively 224 patients who had diagnoses of urinary stones (kidney and ureter) and underwent ESWL. Urinary tomography of patients was processed and classified into 4 groups by Hounsfield units (Group 1, < 299 HU; Group 2, 300-599 HU; Group 3, 600-899 HU; Group 4, 900-1199HU) and 2 groups by stone size (Group A; < 1 cm, Group B; > 1 cm).

**Results.** Were analyzed in concordance with stone free rate after 3 sessions of ESWL. In Hounsfield unit Group 1 stone diameter was 6.5±3.5 mm, number of shocks was 4000 and number of treatments was 1.2±0.6. Group 2 stone diameter was 10.6±3.1 mm, shock amount was 1.9±0.9. Group 3, stone diameter was 14.7±2.0 mm, and number of treatments sessions was 2.1±1.2. Group 4, stone diameter was 16.7±2.0 mm, and number of treatments sessions was 3.1±1.1. **Conclusions.** The evaluation of Hounsfield density on computer tomography of urinary stones can be significant factor to stratify the correct indication for ESWL treatment, increase de *stone free* rate and significant minimize the development of major complications and unsuccessful procedure.

## RESULTS ANALYSIS OF EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY IN URINARY STONE DISEASE AMONG CHILDREN

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### ABSTRACT

**Introduction.** Urolithiasis is not a very frequent condition in the pediatric patients. According from epidemiologic and geographic variation, the general prevalence is from 1 to 3% of all urinary stones, with significant incidence in developed countries. **Material and Methods.** Retrospective data of pediatric urolithiasis patients who underwent ESWL between 2011 to 2022 were used in this retrospective observational study. Extracorporeal shock wave lithotripsy was done for 32 patients. The total number of 43 ESWL sessions were recorded. Radiologic and ultrasound was used to focalized and locate the stones during the ESWL session. This required the pediatric patient to be exposed to the least amount of radiation possible.

For X-ray positive stones, X-ray monitoring was used. All patients underwent Extracorporeal Shock Wave Lithotripsy (ESWL) treatment using the second generation Storz Modulith SLK device. **Results.** The mean overall treatment was  $1.1 \pm 0.4$  sessions with mean stone length of  $9.3 \pm 6.3$  mm of stone. The *stone free* rate after 2 sessions of ESWL was 94,5%. Complications included - urinary tract infections, kidney pain and abdominal pain. Severe complications such as hematoma, were not observed. The majority of complications observed were associated with urinary tract obstruction caused by stone fragments ("steinstrasse"). **Conclusion.** Extracorporeal shock wave lithotripsy has been shown to be a safe and successful minimally invasive therapy for kids with kidney stones in pediatric population.

## EXTRACORPOREAL SHOCK-WAVE LITHOTRIPSY FOR TREATMENT OF RENO-URETERAL STONES – 12 YEARS OF EXPERIENCE

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### ABSTRACT

**Introduction.** Approximately until 90% of reno-ureteral stones have for treatment indication Extra Corporeal Shock Wave Lithotripsy (ESWL). We like to report our 12 years of experience with over 7250 patients with reno-ureteral stones treated with ESWL. The success rate of treatment is very high, and depending on the stone composition, stone density in Hounsfield units, size and location of stones. **Material and methods.** The study included 7250 patients (4567 males, 2683 females, aged 18–85 years old) treated with ESWL between 2011 and February 2023. The stone diameter was in medium 14 mm. Like a therapeutic procedure, ESWL may be accompanied by complications. Most of these complications are minor complications, but in a lower percentage, major complications can be

developed. We statistical analyzed stone free rate, procedure time and complications. **Results.** After first episode of treatment the total stone-free rate was 67 %. From total number of 7250 patients, 9340 of ESWL procedures were made. After the second procedure, the stone free rate 83 % for ESWL. The mean operating time was 37(±5) min for ESWL. From the minor complications was: lumbar pain, hematuria and transitional fever. Major complications – acute obstructive pyelonephritis in 1,1 % of patients, renal subcapsular hematoma 0,57 % and „steinstrasse” in 5,8 % of patients. The unsuccessful rate after ESWL was 17 %. **Conclusions.** ESWL is a safe method to treat stone disease with high rate of “stonefree” when proper indications are followed. In majority of cases after procedure the complications are minor but can appear and the major complications.

## THE NEW POSSIBILITIES TO EVALUATE THE RENAL VASCULARIZATION USING ULTRASOUND COLOR DOPPLER AFTER TREATMENT WITH ESWL IN PATIENTS WITH KIDNEY STONES

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### ABSTRACT

**Introduction.** The data from the several studies have observed and was demonstrated tissue damages after ESWL in treated kidneys, such as pathologic changes - interstitial hemorrhage and parenchymal edema, damage of renal tubular cells and vascular spasms. **Material and methods.** Trying to confirm and further to investigate this clinical pathogenetic possibility, we apply the Doppler ultrasound evaluation to demonstrate the changes of renal blood flow velocity in 45 patients with renal stones who underwent ESWL treatment for kidney stones. The studies were conducted before, immediately after and 2 weeks after an ESWL treatment. **Results.** Were evaluated and was demonstrated the kidney blood flow velocity decreased significantly in the area where was applied shock wave lithotripsy after the treatment and returned to the initial stage levels after 2 weeks. The changes were not detecting significant in the

non-exposed area. Concomitant were observed significantly decrease of kidney blood flow velocity, significant increases of vascular resistive index, pulsatility vascular index and significant decreases of vascular ratio were observed. These parameters were evaluated by measuring of kidney blood flow velocity and its direct correlate with parenchymal vascular resistance. Its a high probability that the changes in kidney parenchymal blood flow velocity are triggered by the tissue damages exposure shock wave lithotripsy treatment. The recovery of kidney blood flow velocity can be in significant correlation to the recovery of the tissue exposure damages. **Conclusions.** The possibilities to use the ultrasound color Doppler method in clinical practice can be a novelty technology to evaluate the state of vascularization in kidney parenchyma after ESWL, and can be an important clinical factor to determine when to repeat and to minimize the development of major complications.

## EFFICACY OF TAMSULOSIN VERSUS TADALAFIL AS EXPULSION TREATMENT IN PATIENTS WITH STONE FRAGMENTS IN THE LOWER THIRD OF URETER AFTER EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY

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### ABSTRACT

**Introduction.** Extracorporeal Shock Wave Lithotripsy (ESWL) is a modern, minimally invasive treatment method of renoureteral lithiasis. Standard medical expulsive treatment (MET) are calcium channel blockers and alpha-1 adrenergics. Recently, 5-phosphodiesterase (PDE5) inhibitors, have also demonstrated relaxation of ureter. Combined medication had a better results in ureteral relaxation and the passage of residual stone fragments. **Material and methods.** The study was performed on a group of 130 patients in the period October 2021 - January 2023, diagnosed with renoureteral lithiasis treated through ESWL with the Modulith SLK Storz Medical lithotripter. Patients were divided into two treatment groups.

Group A administered tamsulosin 400 mcg daily and group B combined treatment with tamsulosin 400 mcg and tadalafil 5 mg daily. **Results.** The comparison of clinical data in the two groups was based on demographic characteristics, stone size, renal location, «stone free» rate. The mean size of the calculi was 13 mm in group A and 11 mm for group B. Patients included in the study didn't undergo any urological interventions for accelerating the elimination of fragments. The «stone free» rate after 3 sessions of ESWL was 89%. The total expulsion rate was 81.4% in Group A compared to 93% in Group B. **Conclusions.** The results of the present prospective study demonstrated that patients receiving combined treatment had a higher stone-free rate compared to tamsulosin monotherapy.

## THE EFFICACY OF EXTRACORPOREAL SHOCK WAVE LITHOTRIPSY IN PATIENTS WITH URINARY STONE DISEASE ON SOLITARY KIDNEY

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### ABSTRACT

**Introduction.** Extracorporeal shock wave lithotripsy (ESWL), as a non-invasive treatment method used in the treatment of urinary stone disease for kidney stones less than 2 cm and ureteral stones less than 1,5 cm. This method of treatment it's also applied in case of patients with solitary kidney (renal and ureteral lithiasis). **Material and Methods.** Was performed a retrospective study of all patients with lithiasis on a solitary kidney, treated and followed-up in Urology department with endourology ward in Republican Clinical Hospital. All single kidney lithiasis patients who met the following criteria were included in the study: functional kidney without obstruction and

calculus  $\leq 20$  mm. A total of 75 patients were enrolled in the study. **Results.** Before applying the treatment by ESWL for all patients were performed ureteral stenting prior to ESWL to prevent obstructive complications and acute kidney injury. The stone free rate after ESWL was 92% and a total stone fragmentation was obtained after one or two lithotripsy shock wave sessions. **Conclusions.** Due to availability of a numerous methods of treatment options, the shock wave lithotripsy provided efficacy results, low incidence of complications, and high rate of stone-free (92%), it's taking in consideration that ESWL can be the appropriate therapy for urinary stone disease in solitary kidney.

## ALTERNATIVE POSITIONING OF PATIENTS IN ESWL WITH URETEROLITHIASIS AND OBESITY

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### ABSTRACT

**Introduction.** Shock wave lithotripsy (SWL) is considered the first choice in the treatment of renal-ureteral lithiasis. In addition to known contraindications, there are also factors that impede the SWL procedure - obesity, ureteral calculi at the level of the iliosacral ligament, radiotransparent calculi in the upper and middle ureter, and skeletal deformities. Overcoming these factors increases the possibilities of applying ESWL. In the Urology and Nephrological Surgery Clinic at USMF « Nicolae Testemițanu,» alternative patient positioning options have been proposed during SWL procedures. The patient's position is in semi-decubitus dorsal-lateral and lateral (with an adjusted degree of «inclination» in relation to the surface of the table). **Material and methods.** A total of 628 patients treated with ESWL using the modified position were evaluated at the Urology Clinic from 2017 to 2022. ESWL was performed with the MODULITH SLK «Storz Medical» lithotripter. Patients were divided into groups: those

with radionegative calculi in the upper ureter and morbid obesity - 386 cases (group 1), and those with radiopaque ureteral calculi located in the projection of the iliosacral ligament - 242 cases (group 2). Results were evaluated according to the «stone-free» rate, the need for other treatment methods, and complications. All patients were reexamined after five days of ESWL. **Results.** Group 1 - «Stone free» after the first SWL session was achieved in 257 patients (65.5%). Ureteroscopy was performed in 42 patients (10.8%). Retroperitoneal hematoma occurred in one patient (0.3%). Group 2 - «Stone free» after the first SWL session was achieved in 194 patients (80%). Ureteroscopy was performed in 11 cases (4.5%). Repeated lithotripsy sessions were performed in 124 patients from both groups. **Conclusions.** Alternative patient positioning allows for the extended application of ESWL in iliosacral, radiotransparent upper ureteral calculi, and obesity with equal efficacy. The results obtained are comparable to data from specialized publications.

## PERCUTANEOUS NEPHROLITHOTOMY. CLINICAL EXPERIENCE FOR 4 YEARS

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### ABSTRACT

**Introduction.** Percutaneous nephrolithotomy (PCNL) is a minimally invasive procedure to remove kidney stones by a puncture through the skin in lumbar region. This procedure is accepted as standard of care for patients with kidney stones that are large and resistant to other forms of urolithiasis. **Objective.** Stone free rate obtained in the clinic following PCNL intervention applied to patients with urolithiasis, during 4 years (2019-2023). **Material and methods.** The study was performed in the Department of urology and surgical nephrology of the State University of Medicine and Pharmacy «Nicolae Testemitanu», on a group of 175 patients with diagnosis of urolithiasis. **Results.** Anatomical distribution of renal stones: right kidney 81(46,3%) patients, left

kidney 94(53,7%) patients. The stones size ranged from 2 cm up to massive staghorn stones (>4,5cm). The after-surgery hospitalization period on average was 4,5 days. Four patients had solitary kidney. From the group of study, 5 (2,9%) of them were tubeless, 4 (2,3%) were with two puncture channels, and 1 (0,6%) patient was with three puncture channels. The stratification of the surgical after surgery complications was evaluated according to the Clavien-Dindo score. CDS I: 145(82,85%); patients CDS II: 26(14,85%) patients, CDS III: 4 (2,3%) patients. Patients with CDS IV and V were not detected. **Conclusions.** The success of PCNL is dependent on many factors such as stone composition, stone size, number of stones, localization, body mass index. The stone free rate was 91% and 100% following by "second look" procedure: ESWL, Ureteroscopy.

## LITHOTRIPSIE ENDOSCOPIQUE DE CONTACT AVEC TECHNOLOGIE LASER DANS LE TRAITEMENT DES CALCULS DE L'URETERE SUPERIEUR

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### ABSTRAITE

**Introduction.** La lithotripsie de contact est une méthode de traitement prioritaire utilisée dans la lithiase urétérale. L'utilisation de cette méthode présente des avantages par rapport à l'ESWL, mais des complications peuvent survenir, telles que la migration du calcul dans le système pyélocaliciel du rein, la perforation de l'uretère, la pyélonéphrite aiguë par reflux, les sténoses urétérales. **But de l'étude.** Effectuer une analyse comparative de la fréquence des complications dans le traitement des calculs de l'uretère supérieur par LTC pneumatique et LTC laser. **Matériel et méthodes.** Étude rétrospective menée sur la période 2019-2020, dans la clinique d'urologie 196 chirurgies de LTC de calculs urétéraux ont été effectuées, dont 53 cas les calculs étaient situés dans le tiers supérieur de l'uretère, 143 cas - dans le tiers inférieur. La lithotripsie laser a été utilisée dans 27 cas, la lithotripsie pneumatique de contact chez 26 patients. Après la LTC pneumatique, la principale complication était la migration rétrograde du calcul

dans le système pyélocaliciel du rein (dans 76 % des cas). Lors de l'application de la technique laser au traitement des calculs dans le tiers supérieur de l'uretère, la migration du calcul ne s'est pas produite (dans 100 % des cas) en raison de la puissance élevée du laser, qui est capable de fragmenter les calculs en poussières, indépendamment de leur composition et de leur taille. Les patients soumis à la lithotripsie pneumatique de contact ont obtenu un taux d'élimination des calculs en utilisant deux méthodes de traitement (LTC + ESWL), ce qui a nécessité une hospitalisation plus longue de 2 à 3 jours pour la procédure ESWL. Pour la lithotripsie au laser, le taux d'élimination des calculs a été de 100 % en une seule procédure. La durée d'hospitalisation n'a pas dépassé 5 jours. **Conclusions.** La LTC au laser pour les calculs dans le tiers supérieur des uretères présente des avantages significatifs par rapport à la LTC pneumatique et permet aux patients d'avoir un taux significatif d'absence de calculs, ce qui réduit la durée d'hospitalisation et le nombre de complications qui peuvent survenir.

## MINIMALLY INVASIVE APPROACH THROUGH PCNL IN HORSESHOE KIDNEY STONES

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### ABSTRACT

**Introduction.** Percutaneous nephrolithotomy (PCNL) can be used to treat horseshoe kidney stones. However, the PCNL approach can be considered difficult due to the anatomical peculiarities of the horseshoe kidney, such as the specific calyceal shape and its malformed position.

**Objective.** To study the possibility of using PCNL in horseshoe kidney stones and its results. **Material and methods.** 57-year-old patient diagnosed with congenital malformation-horseshoe kidney confirmed by CT of the urinary system organs with dynamic contrast Sol. Ultravist 370, urographic phase 15', with irradiation dose-2251 mGy/cm<sup>2</sup>. Tomographic sections show kidneys: right-10.8cm (longitudinal), left-11.3cm (longitudinal); homogeneous parenchyma, corticomedullary layers intact, with parenchymal fusion at the lower pole with a diameter of 1.2cm, on the left calcareous

inclusion distributed in the middle, lower calyces and pelvis, size 5.5x3.85cm, density +1319UH, left renal pelvis 5.1x2.6cm. Paraclinical examination reveals a massive left coralliform kidney stone. Treatment: PCNL of the left horseshoe kidney.

**Results.** The state of «stone free» was obtained through the PCNL approach after one session, the result being confirmed by non-contrast CT: the corticomedullary layers are not altered, the renal pelvis is not dilated, without stones, solid or cystic volume formations. **Conclusion.** PCNL is a minimally invasive treatment technique in renal lithiasis on the malformed kidney. This approach may have limitations depending on the size of the stone and the conformational changes of the kidney. These particularities can make the intervention more difficult and increase the risk of complications, but the procedure can still be considered an effective treatment option in kidney stones on the horseshoe kidney.

## ENDOSCOPIC LASER TREATMENT IN URETERAL UROLITHIASIS IN PREGNANT WOMEN

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### ABSTRACT

**Introduction.** The active introduction of lasers in practical urology has become a strong factor in the development of minimally invasive surgery in the treatment of ureterolithiasis. Currently, laser contact ureterolithotripsy is one of the most effective ways to treat patients with ureteral stones, especially pregnant women. The search for new methods of treatment, including transurethral, for urolithiasis is of great practical importance. The paper presents the results of contact lithotripsy of ureteral stones in pregnant women. **Objective.** To study the possibility of using laser lithotripsy of ureteric stones in pregnant women with urolithiasis and its results. **Material and methods.** Retrograde contact ureterolithotripsy was performed in 10 pregnant women with urolithiasis between 16 and 28 weeks' gestation. The indications for this operation were

established each time individually together with the obstetrician and anesthesiologist. All operations were performed only under visual and ultrasound control using a semi-rigid ureteropyeloscope with a distal part size of 8 Ch and a laser device without the use of Rx control. **Results.** In all cases, crushing and complete removal of ureteral stones was possible. There were no complications associated with the ureteropyeloscope and contact crushing of the stone. The operation ended with the installation of a stent JJ ureteral for 10 days. All patients were followed until delivery. All women were able to achieve long-term uroculture sterility. **Conclusion.** The use of retrograde contact ureterolithotripsy in the second trimester of pregnancy is a reasonable, minimally invasive surgical method for the treatment of urolithiasis, which avoids long-term stenting of the ureter or the installation of a nephrostomy.

## ENDOSCOPIC TREATMENT OF URETERAL STONES IN ANOMALIES OF URETERAL DEVELOPMENT

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### ABSTRACT

**Introduction.** Congenital abnormalities in urology are very common. Ectopic ureter, ureterocele, strictures and ureteral diverticula as well as duplex systems are the most common in this respect. The combination of abnormalities and stones is of clinical importance. The question arises as to whether the standard procedures for calculi also apply to stones in abnormal ureters. **Objective.** Let us review our experience with ureteroscopy in treating patients with abnormal ureters and evaluate the effectiveness of this approach. **Material and methods.** Four patients with abnormal ureteric stones who were treated by ureteroscopic procedures were identified. Information, preoperative calculus burden, operative information (ureteroscope size, lithotrite used, instruments used, duration of surgery, complications, stenting), follow-up

imaging, and complications were obtained from the medical record. This information was analyzed to determine the most commonly used tools and stone-free rates. **Results.** Four patients were included in the study. The mean age of the patients was 58 years. The average operating time for the laser lithotripsy procedure was 40 minutes. Ureteral stricture was detected in 3 patients, ureterocele in 1 patient. Three of the patients (75%) were «stone free» in 2 weeks after ureteral stent extraction. None of the patients had changes in back pressure, gross hematuria, or abdominal pain during the follow-up period. Hospital stay varied between 5 and 7 days. **Conclusion.** Ureteroscopy with laser lithotripsy a reasonable alternative to shock wave lithotripsy in the management of patients with abnormal ureteral stones. The procedure is safe and effective and avoids the complications of open surgery.

## **ENDOSCOPIC MANAGEMENT OF URETERAL STONES – EXPERIENCE OF THE UROLOGY DEPARTMENT OF THE EMERGENCY MEDICINE INSTITUTE**

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### **ABSTRACT**

Endoscopic lithotripsy is first-line therapy for complicated upper urinary tract calculi and for patients who fail primary extracorporeal shock wave lithotripsy. A retrospective study conducted in urosurgical department in Emergency Medicine Institute from 2020 to 2022 aims to identify the need for use of laser lithotripsy and/or other ureteroscopic equipment in patient undergoing ureteroscopy for ureteric stone management. In the study was included 522 patients treated by ureteroscopy. The mean age of the patient was 43,4 years. Ureteroscopy had done in the right side in

273 patients, left side in 249 patients, and bilateral ureteroscopy in 16 patients. Ureteric stones found in upper ureter in 118 patients, middle ureteric stone seen in 57 patients, and lower ureteric stone founded in 347 patients, whereas 27 patients had stones at more than one location. Ureteric stone measuring 6 - 18 mm in largest diameter. Average duration of endoscopy was 23 minutes. A 92.7 % stone – free rate was obtained. No major complications occurred. Double J stent had been used in 98 patients and had been removed after 3 to 6 weeks. In conclusion ureteroscopy requires a good equipment, technical skills and vigilance of the performing urologist.

## THE TECHNIQUE OF EVACUATION OF HYPERPLASTIC PROSTATIC TISSUE AFTER THUYAG LASER WITH A NON-MORCELLATING APPROACH

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### ABSTRACT

**Introduction.** Currently, most of the prostate enucleation techniques are based on laser energy. Enucleated tissue usually is removed from the urinary bladder through morcellation. Considering the high risk of morcellation, we tried the modified non-morcellation evacuation technique, which means the resection or vaporization of the enucleated prostate tissue. **Material and methods.** A retrospective evaluation of 54 patients undergoing ThuVEP from January 2019 to December 2021 was performed at our institution. In twenty-five patients morcellator was used while in other 29 patients the resection of the enucleated tissue on the pedicle was applied. The time of interventions, perioperative and postoperative complications according Clavien-Dindo (2004) classification

were also recorded. **Results.** There were no cases of gross hematuria, febrile UTI or ureteral orifice injury. Urinary bladder perforation was occurred in 1 case (1.9 %) of all cases. Superficial bladder lesions occurred in 3 patients (5.6 %) of all cases, thus only grade 1 complication were reported, and no specific treatment was required. After same time, no complications were reported in patients who supported resection of enucleated tissue. Comparisons of total operative time and enucleation time showed a slight difference between the two groups. The operating time with the morcellator was on average 75±9 min, without morcellator 87±11 min on average. **Conclusion.** Our modified technique is a safe and effective procedure for the treatment of BPH, avoiding the potential complications caused by the morcellator.

## SAFETY AND EFFICACY OF MONOPOLAR AND BIPOLAR TRANSURETHRAL SURGERY IN THE TREATMENT OF VOLUMINOUS BENIGN PROSTATIC HYPERPLASIA ASSOCIATED WITH SEVERE LOWER URINARY TRACT SYMPTOMS

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### ABSTRACT

**Introduction.** Benign prostatic hyperplasia (BPH) is a frequent condition in elderly men that induces severe lower urinary tract symptoms.

**Objective.** To evaluate the efficacy of monopolar and bipolar transurethral resection in the treatment of voluminous BPH. **Material and methods.** From 2020 to 2022, 110 patients with BPH were included in the study: TUR-P (60 patients) and bipolar TUR-P (50 patients). All patients were evaluated preoperatively and at 3 months postoperatively (IPSS, QoL, TRUS-P and uroflowmetry). Inclusion criteria were: prostate volume (PV)  $\geq 80\text{cm}^3$ , post-void residual volume (PVR)  $\geq 50\text{ml}$ , IPSS  $\geq 25$ ,  $Q_{\text{max}} \leq 10\text{ml/s}$ ,  $Q_{\text{oL}} \geq 4$ .

**Results.** There was no significant difference in the efficiency of the investigated methods at 3

months postoperatively: PVR -  $12 \pm 8\text{ml}$  (TUR-P group) vs  $10 \pm 4\text{ml}$  (bipolar TUR-P group), PV was  $26 \pm 7\text{cm}^3$  vs  $22 \pm 3\text{cm}^3$ , respectively, in the groups. A comparable improvement in  $Q_{\text{max}}$  was found in the TUR-P group (+129%) and the bipolar TUR-P group (+137%). Patients reported a significant improvement in lower urinary tract symptoms in the postoperative examination after monopolar surgery (IPSS- $10 \pm 3$ , QoL- $2 \pm 1$ ) and bipolar surgery (IPSS- $9 \pm 2$ , QoL- $2 \pm 1$ ), with similar results. A notable difference was the duration of the surgical intervention, which was on average  $94 \pm 12$  minutes for monopolar resection and  $86 \pm 9$  minutes for bipolar resection. **Conclusions.** Bipolar and monopolar transurethral prostate resection have a similar safety/efficacy ratio in patients with voluminous BPH associated with severe lower urinary tract symptoms.

## SURGICAL TREATMENT ANALYSIS OF URETHRAL STRICTURES OVER A PERIOD OF 5 YEARS

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### ABSTRACT

**Introduction.** A urethral stricture is a narrowing of the urethra, the tube that carries urine from the bladder out of the body. This narrowing can occur anywhere along the length of the urethra and can cause a range of urinary symptoms, such as difficulty urinating, a weak urine stream, and incomplete bladder emptying. **Purpose of the study.** The aim is to examine the diagnosis and treatment methods used for urethral strictures in the past 5 years, with consideration given to the underlying causes of the strictures. **Material and methods.** In a study conducted from 2018 to 2022 at "Nicolae Testemitanu" State University of Medicine and Pharmacy, 696 individuals with urethral strictures participated. The study aimed to examine the age-related and underlying

characteristics of the condition, along with the specifics of the surgical treatment methods employed. **Results.** In the treatment of patients with acquired urethral strictures, several surgical methods were used, including Holțov-Marion procedures (11 surgeries), Solovov-Badenoc procedures (7 surgeries), urethral recanalization (41 surgeries), urethrotomy with internal optical urethrotomy (UIO) (592 surgeries) using laser energy (39 surgeries), and urethroplasty with oral mucosa (6 surgeries). **Conclusions.** Endoscopic method advantages include minimal additional trauma to affected urethra, making it optimal for multiple strictures. UIO is indicated for recurrent or old strictures, with urethrotomy as preferred treatment. Internal optical urethrotomy is the preferred choice for urethral strictures.

## THE APPLICATION OF LASER ENERGY FOR MINIMALLY INVASIVE TREATMENT FOR PROSTATE LITHIASIS AS A CONSEQUENCE OF NONBACTERIAL PROSTATITIS

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### ABSTRACT

**The objectives.** To determine the effectiveness of the endourological treatment of IVO caused by the consequence of CNBP (Cronic nonbacterial prostatitis) lithiasis via the Thu:YAG laser energy.

**Material and methods.** The study was included 54 patients with prostate lithiasis, after-CNBP, and voiding disorders within 3 months, who required endourological surgery. Transurethral incision of the prostate via the Thu:YAG laser was performed at 5 and 7 o'clock position acordly quadrant, followed by the resection of the sclerosis tissues and endoscopic lithotripsy of prostate lithiasis.

**Results.** Over the 12-month follow-up, IPSS improved significantly from  $20.2 \pm 2.57$  to  $8.84 \pm 0.58$  after the intervention. QoL decreased from  $4.53 \pm 0.31$  to  $1.4 \pm 0.17$  score points, and Q<sub>max</sub>

increased from  $9.14 \pm 1.5$  ml/s to  $19.53 \pm 0.16$  ml/s.

The mean value of post-void residual decreased ( $84.8 \pm 17.4$  ml vs.  $16.27 \pm 7.6$  ml). The following intrasurgery complications were registered: prostate capsule perforation in 3 (5.56%) cases, bladder neck damage in 2 (3.7%) cases, hemorrhage - 1 (1.85%), urethral meatus injury - 1 (1.85%), bladder perforation in the triangle - 2 (3.7%) patients. The after-surgery complications included orchiepididymitis - 1.85%, urethral stricture - 1.85%, and bladder neck sclerosis - 5.56% patients.

**Conclusions.** Thu:YAG laser incision/resection of the prostate is an effective and safe treatment of IVO caused by CNBP lithiasis, characterized by fast urinary continence recovery, being available to all categories of patients. The advantages are the short-term urethral catheterization and the significant recovery of voiding dysfunction.

## THE VALUE OF ENTOMOLOGICAL TREATMENT IN ENDOSCOPIC INTERVENTIONS FOR FIBROSIS IN PROSTATE DUE TO CHRONIC NONBACTERIAL PROSTATITIS

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### ABSTRACT

**Objective.** To determine the efficacy of entomological drugs in chronic nonbacterial prostatitis (CNP) and their contribution in preventing and reducing complications after transurethral endoscopic treatment. **Material and Methods.** In the study were included 40 patients with after bladder obstruction as a consequence of CNP. Prior to transurethral prostate resection with laser Ho:YAG, all patients were administered multimodal treatment. The preparation Supp. Adenoprosin 150 mg were administered to 30 patients, while the remaining 10 constituted the control group. To evaluate treatment effectiveness changes in symptoms (IPSS, QoL) and objective parameters (Q<sub>max</sub>, residual urine volume,

prostate volume) were analyzed before surgery, and at 3, 6, and 12 months after surgery. **Results.** Over 12 months of follow-up, patients who received additional Adenoprosin showed improvement in IPSS scores from 19.2±4.7 to 6.1±3.7 points, a reduction in QoL from 4.2±1.7 to 2.4±0.8, and an increase in Q<sub>max</sub> from 8.5±2.8 ml/s to 19.9±3.0 ml/s. In after surgery the average residual urine volume decreased significantly 86.0±12.5 ml vs 12.16±1.8 ml in the first group of patients, compared to the control group. **Conclusions.** Patients with CNP and fibrosis who underwent transurethral resection of prostate with laser Ho:YAG after receiving Adenoprosin medication reported a faster improvement of urinary symptoms compared to those who only received standard therapy.

## SCLEROSING SUBSTANCES IN TREATMENT OF SYMPTOMATIC SIMPLE RENAL CYSTS

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### ABSTRACT

**Introduction.** Percutaneous aspiration sclerotherapy is indicated for the treatment of symptomatic renal cysts. The efficacy of various sclerosing agents have been sources of ongoing debate and disagreement. **Purpose of the study.** The aim of this study was to evaluate the efficacy and safety of the use of aethoxysklerol 3% in the minimally invasive treatment of simple renal cysts. **Material and methods.** Between 2018 and 2021, the results of 43 symptomatic patients with an average age of 55 years, of which 22 men and 21 women, with renal cysts larger than 5 cm, detected on ultrasonography or CT Bosniak I. Under local

anaesthesia, through a percutaneous ultrasound - guided approach with an 18G needle, puncture the collection with aspiration of the liquid, then inject 1.0 ml of aethoxysklerol 3% solution for every 100 ml of aspirated liquid. **Results.** The complete disappearance of the renal cyst varied between 80% - 96% after a follow-up period of 3-36 months, for cysts up to 7.0 cm. The partial reduction of the renal cyst >50% varied between 35% - 55%. Minor complications 2 cases 4.6%: low fever and microhematuria. The success rate of sclerotherapy was inversely proportional to cyst size ( $p=0.01$ ). **Conclusions.** Sclerotherapy with aethoxysklerol 3% is a more reliable, cost-effective minimally invasive method for the treatment of simple renal cysts.

# RÉSULTATS PÉRIOPÉRATOIRES DE LA CHIRURGIE LAPAROSCOPIQUE DANS LE TRAITEMENT DES PATHOLOGIES RÉNALES

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## ABSTRAITE

**Introduction.** La chirurgie laparoscopique apparaît comme une approche attrayante pour les pathologies rénales et est réalisée avec une variabilité technique. La sécurité et l'efficacité de la chirurgie urologique laparoscopique et son impact sur la qualité de l'acte médical sont justifiés. **Matériel et méthodes.** Cette étude a recruté 72 patients atteints de pathologies rénales oncologiques et non oncologiques qui ont été détectés par Uro CT et ont subi des interventions laparoscopiques de néphrectomie radicale, résection partielle et résection du kyste renal. **Résultats.** Sur le nombre total de 72 patients, 15 patients ont reçu un diagnostic de tumeurs rénales antérieures et dans 5 cas de tumeurs rénales postérieures. 52 autres patients ont été diagnostiqués avec des kystes rénaux. Ont été réalisées 15 interventions

de néphrectomie radicale, 5 néphrectomies partielles et 52 résections de kystes rénaux avec une durée chirurgicale moyenne de 120 minutes et une hospitalisation de 72 heures. Dans le cas de deux néphrectomies partielles a été appliquée l'ischémie, trois néphrectomies partielles sans ischémie. Les taux généraux de complications attribuées à la laparoscopie dans les 20 et 40 premiers cas étaient identiques. Sur le nombre total de résections de kystes rénaux, une a nécessité une conversion chirurgicale en raison d'une hémorragie parenchymateuse. Deux cas de néphrectomie radicale et un cas de néphrectomie partielle ont nécessité la transfusion sanguine. **Conclusion.** Les interventions laparoscopiques sont sûres, efficaces, diminuent la durée de l'hospitalisation et les complications septiques postopératoires.

## THE EFFECTIVENESS OF TRANEXAMIC ACID IN THE MANAGEMENT OF MACROHEMATURIA AFTER TUR-P

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### ABSTRACT

**Introduction.** Monopolar-TUR-P is the standard surgical procedure for men with prostate sizes of 30-80 ml. Perioperative macrohematuria is associated with an increase in fibrinolytic activity of urine. Tranexamic acid is a potent inhibitor of plasminogen. **Objective.** The purpose of this study is to determine the efficacy of tranexamic acid in the management of perioperative macrohematuria and the need for hemotransfusion. **Material and methods.** A retrospective pilot study performed at Urology department, during October - December 2022 included 65 patients aged 60-84 years. Patients were divided into two groups: 1) 33 patients in whom tranexamic acid was administered

intravenously 1000mg during surgery and 500 mg intravenously every 8 hours postoperatively and 2) 32 - the control group. **Results.** The operating time in 1 group was with 12.7 min less than in 2 group (49.5 min vs 62.2 min). The decrease in serum hemoglobin level 24 hours after surgery was not significant (8.5 g/l vs 15.2 g/l). Hemotransfusion was required in 2 patients from the second group (6.25%). We identified a significant decrease in the time of postoperative macrohematuria (6.5 hours vs 22.1 hours). **Conclusion.** Intravenous administration of tranexamic acid in recommended doses decreases the risk of postoperative hemorrhagic complications, the need for hemotransfusions and significantly the duration of postoperative macrohematuria.

## THE PERIOPERATIVE MANAGEMENT OF PATIENTS WITH CARDIAC PATHOLOGIES IN THE TREATMENT OF PROSTATE ADENOMA

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### ABSTRACT

**Introduction.** Patients undergoing chronic anticoagulant therapy who are subjected to transurethral resection of the prostate pose a major perioperative management problem due to the increased risk of significant bleeding associated with the surgical procedure and the risk of thromboembolism associated with temporary discontinuation of anticoagulants. **Objective.** To evaluate the effectiveness of low molecular weight heparin as a substitute for oral anticoagulants. **Material and methods.** 10 patients with chronic oral anticoagulant therapy underwent TUR-P, according to a prospective protocol based on the exchange of oral anticoagulants with perioperative injections of low molecular weight heparin and resumption of oral anticoagulants postoperatively.

The safety and effectiveness of this regimen were evaluated compared to a control group of 10 randomly selected non-warfarin-treated patients who underwent TURP during the same period. **Results.** The need for blood transfusions did not show a significant difference between the two groups. Due to persistent hematuria, catheter removal was possible in only 3 out of 10 patients in the heparin group, compared to 7 out of 10 in the control group. The average hospitalization period in the heparin group was  $4 \pm 0.5$  days compared to  $3 \pm 0.1$  days in the control group ( $p < 0.01$ ). No hemorrhagic or thromboembolic complications were detected during the 2-month postoperative period. **Conclusions.** Heparin replacement therapy resulted in a longer hospitalization period and a satisfactory outcome in preventing postoperative pulmonary thromboembolism.

## THE INTERRELATIONS OF TRUS-P BIOPSIES, PSA LEVELS AND HISTOLOGICAL RESULTS IN THE CONTEXT OF PROSTATE CANCER

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### ABSTRACT

**Introduction.** Prostate cancer (PC) is one of the most often diagnosed cancers worldwide. The PC in men influences life quality therefore an early diagnosis provides a better evolution. The gold standard method is the transrectal ultrasound-guided prostate (TRUS-P) biopsy. **Material and methods.** From May 2016 to December 2021, 328 patients were evaluated using TRUS-P biopsy. The study includes biopsies by core numbers: 43 patients -6core; 44 -10core; 267 -12core and 28 -polysaturated core biopsies (15,18,20). The level of PSA, age, and histological results were assessed. **Results.** The study includes patients aged 50–90 years. PSA levels ranged from 0.32 to 177,00 ng/ml, with a mean of 88,66ng/ml. The diagnoses of Adenocarcinoma (AC) were in 214(56,02%) patients; Benign Prostatic Hyperplasia (BPH) in 122(31,93%) patients and Atypical Small Acinar Proliferation (ASAP) in 46 patients (12,04%). The

6-core biopsy revealed that 37,2% (24 patients) had AC, 37,2% (16 patients) had BPH, and 6,97% (3) had ASAP. The 12-core biopsy had shown that 53,18% (142) were diagnosed with AC; 35,2% (94) with BPH; 11,61% (31) with ASAP. The prostate-specific antigen (PSA) average in the patients with AC is 89,4ng/ml (3,18 ng/ml-177,00 ng/ml). The average PSA level in patients with BPH is 37,16 ng/ml (0,32–74,00 ng/ml). An average of 22,99ng/ml (3,29–44,70 ng/ml) was found in the patients diagnosed with ASAP. There were 27 cases of AC in patients under the age of 60, with 4,1% (8 patients) diagnosed between 2016 and 2018, and 9,94% (19) diagnosed between 2019 and 2021. **Conclusions.** The 10 and 12 core TRUS-P biopsies are efficient in the identification of ASAP forms, which can be suggestive of PC, making an early diagnosis possible. The study also shows that the identification rate of PC in patients under 60 years old is increasing.

## BIOMARKERS FOR EVALUATION OF PROSTATE CANCER PROGNOSIS - AN UPDATE OF SCIENTIFIC LITERATURE

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### ABSTRACT

Prognosis of prostate cancer is determined by three clinical factors: PSA, Gleason score, and tumor stage. The likelihood of prostate cancer death in each patient after radical therapy can be predicted using nomograms. KLK2 is a good prognostic indicator for prostate cancer, and KLK2 analysis alone or in conjunction with P-binding protein 3SA analysis may be helpful. New prognostic biomarkers are needed to improve clinical care and differentiate between indolent and aggressive illness. IGFBP-3 is an insulin-like growth factor that is involved in the suppression of cell proliferation and the increased cytotoxicity of prostate cancer cells to VD3 when combined with the anti-cancer medication. It is also used in the risk of bone metastases. EPCA-2 is a putative serum tumor marker in prostate cancer and can be used to

distinguish between local and metastatic prostate cancer. PSCA expression is associated with tumor stage, grade, and androgen independence. PSCA is a helpful molecular target in advanced prostate cancer due to its ability to increase extracellular matrix and basement membrane breakdown, which is necessary for metastasis and spread locally. Urokinase plasminogen activator receptor (uPAR) on the cell surface is where (uPAR) binds and is broken down into plasmin. uPAR participates in a number of immune regulatory systems and also indicates the degree of immune system activation. uPAR levels during infectious infections and among patients receiving treatment in critical care units have been the subject of several studies, and may have predictive significance in determining the likelihood of developing diabetes, hypertension, and cardiovascular disease.

## OPEN RETROPUBIC PROSTATECTOMY IN PATIENTS WITH LOCALIZED PROSTATE CANCER

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### ABSTRACT

**Introduction.** Patients with localized prostate cancer are candidates for surgery, radiation therapy, or active surveillance. Open retropubic prostatectomy (ORP) is the most common surgical treatment in the Republic of Moldova. **Aim of study.** Were to evaluate the effectiveness of ORP and to study early and long-term postoperative outcomes in patients with localized prostate cancer. **Methods.** In the period from June 2021 to February 2023, ORP was performed in 20 patients with localized prostate cancer at the Urology Department of the IMSP SCR «Timofei Mosneaga». The mean age of the patients was 67.3 years. The mean preoperative PSA was 12 ng/ml. In 8 patients (40%) was determined a low risk of biochemical recurrence, in 8 patients (40%) was established intermediate risk and in 4

patients (20%) high risk of biochemical recurrence. According to the TNM classification for prostate cancer (2017), the distribution was as follows: T1a – 2 patients (10%), T1c – 14 patients (70%), T2a-T2c – 4 patients (20%). Extended pelvic lymphadenectomy preceded prostatectomy in 9 patients (45%). **Results.** Among the intraoperative complications, there was bleeding from the veins of the Santorini plexus in 3 cases. In the postoperative period, one patient had prolonged lymphorrhea. The median number of days a patient spent in hospital after surgery was 8 days (3-25). Removal of the urethral catheter was performed on the 3-4th week. Urinary continence was restored in patients within six months after surgery. **Conclusion.** ORP is an effective surgical method for treatment of clinically localized prostate cancer with low level of postoperative complications.

## 10-YEAR OUTCOMES AFTER OPEN PARTIAL NEPHRECTOMY

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### ABSTRACT

**Introduction.** Kidney cancer is the 14th most common cancer in the world. The incidence of malignant renal tumors in the Republic of Moldova, between 2014-2022 was 9.3 patients per 100,000/year. Partial nephrectomy (PN) is considered gold standard of care in patients with cT1 renal tumor masses. **Aim.** Analyze the surgical and oncological outcomes in patients with renal tumors and obtaining the optimal strategies for patients with localized renal cancer. **Material and methods.** A retrospective pilot study carried out on 86 patients with kidney tumor who underwent open PN during 2014-2023. **Results.** During the study were performed 920 interventions on patients with renal tumor, of which 9.34% of cases were performed PN. Increased incidence was at age group 40-60

years, with female's prevalence. PN without warm ischemia (WIT) was performed in 60 patients, while with WIT in 26 patients, without impact on renal function after surgery. RCC >7cm was present in 66.2% of cases with localization at the upper renal poles (29%), lower (37%) and at mid-kidney (34%). WIT was performed in 26 patients (14.8±4.2minute). Intraoperative bleeding was present in 100% in PN without WIT (29.8±13ml). The ratio of histological types of renal malignant tumors was 57% of cases, the highest incidence was RCC (66%) in men (83%). **Conclusion.** PN with WIT is valuable when we assume that intraoperative complications and a difficult reconstruction of the kidneys that can occur due to the complexity of the tumor ensuring a low risk of intraoperative bleeding.

## RADICAL PROSTATECTOMY FOR LOCALLY ADVANCED PROSTATE CANCER

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### ABSTRACT

**Introduction.** Optimal treatment approaches for locally advanced prostate cancer remain controversial and there are currently no standard treatments. According to recent papers, radical prostatectomy in men with locally advanced prostate cancers seems to effect improvement in both cancer specific and overall survival rates in comparison to radiation with androgen deprivation therapy. **The aim.** This study was to report oncological outcomes of patients who underwent radical prostatectomy in our department and to assess the role of radical prostatectomy in patients with locally advanced prostate cancer. **Methods.** This study included 150 consecutive patients who underwent radical prostatectomy in

our department. Oncologic outcomes comprised positive surgical margins, nodal involvement, ISUP grade, presence of perineural and lymphovascular invasion. **Results.** Median age of the patients was 65±4 (51-79) years. Based on postoperative pathology, from 150 patients, 51 (34%) were pT3, from whom 37% (19) pT3a and 63% (32) pT3b. The rates of positive surgical margins in the entire cohort with stage pT3 disease was 20% (10), N1 were 13,7% (7). In pT3a R1 were 5,2% (1), in pT3b R1were 28% (9), N1were18,7% (6). ISUP 1: 5,88% (3), ISUP 2: 27,45% (14), ISUP 3: 39,21% (20), ISUP 4: 13,7% (7), ISUP 5: 17,64% (9). Perineural invasion was present in 96% (49) of cases, limfovascular in 43,13% (22). **Conclusions.** Radical prostatectomy could be an option for patients with locally advanced prostate cancer.

## TRANSURETHRAL RESECTION VS EN-BLOC RESECTION OF NON-MUSCULAR INVASIVE BLADDER TUMORS

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### ABSTRACT

**Introduction.** The relevant standard technique for treatment of non-muscle invasive bladder cancer is transurethral resection (TURBT) of the bladder tumor. The quality of TURBT has a direct influence on the accuracy of histopathologic examination, subsequently has an impact on risk evaluation regarding recurrence and patient's outcome. New methods of En-bloc resection with different types of energy were proposed: monopolar, bipolar, laser. **Purpose of the study.** To compare the results after transurethral resection and En-bloc resection of non-muscular invasive urinary bladder tumors. **Material and methods.** In the study 128 consecutive patients with bladder tumor were included. They were treated surgically at the Urology Clinic of *Nicolae Testemitanu* State

University of Medicine and Pharmacy from 2017 till 2022. The patients were divided in four groups: En-bloc monopolar (En-blocM), En-bloc bipolar (En-blocB), En-bloc laser (En-blocL) and transurethral resection group. The postoperative patients' data were comparatively analyzed. **Results.** Tumor and demographic analysis showed absence of any differences between the study groups. Detrusor muscles were detected in 31 (97%) cases of En-blocM, in 30 (97%) cases of En-blocB, in 32 (100%) cases of En-blocL and in 25 (76%) cases of TURBT groups. The frequency of complications is almost the same, without a significant difference. **Conclusions.** The En-bloc resection technique provides more favorable results for obtaining better quality tumor samples, manifested in the presence of detrusor muscle, consequently it allows to establish a correct diagnosis and tumor staging.

## EARLY DIAGNOSIS OF URINARY BLADDER TUMORS USING NARROW BAND IMAGING

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### ABSTRACT

**Introduction.** One of the recent directions in modern urology is an early diagnosis of bladder tumors which allow the disease recognition on its early stages of development. Cystoscopy remains the method of choice for diagnosis of bladder tumors. In the last decade new methods for detection and visualization of bladder tumors have been proposed. **Purpose of the study.** To assess the difference between narrow band imaging (NBI) cystoscopy for the detection of non-muscular invasive bladder tumors and white light (WL) cystoscopy. **Material and methods.** 187 patients with diagnosed bladder tumor were included. The study was done at the Urology Clinic of *Nicolae Testemitanu* State

University of Medicine and Pharmacy from 2017 till 2022. White light cystoscopy was performed in all patients, followed by narrow band imaging cystoscopy, and the obtained data were compared. **Results.** From 187 patients with bladder tumors the diagnosis was established by WL cystoscopy in 166 (89%) patients, as where as in 21 (11%) patients the tumor was detected by NBI cystoscopy performed after WL. Quantitatively, a total of 279 tumor lesions were detected. 212 (76%) were determined through WL and 67 (24%) tumor lesions were identified using the NBI method. **Conclusions.** Compared to white light cystoscopy, narrow band imaging cystoscopy shows favorable results regarding the early diagnosis of non-muscular invasive bladder tumors.

## RISK FACTORS OF URINARY BLADDER CANCER

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### ABSTRACT

**Introduction.** Carcinogens affecting bladder urothelium are eliminated with urine. Risk factors like inflammation, smoking, infections, radiation exposure, occupational factors etc. lead frequently to tumor and the progression of bladder cancer. Nowadays the interrelation between bladder cancer and genetic predisposition is well studied. Whereas important is the influence of environmental factors in the disease evolution. **The purpose of the study.** To assess the risk factors in patients diagnosed with bladder cancer. **Material and methods.** In the study 337 patients with bladder cancer were included. The treatment was realized in the Clinic of Urology of State University of Medicine and Pharmacy «*Nicolae Testemitanu*» from 2019 to 2022. The patients' age, living conditions, risk

factors and vital parameters were assessed. **Results.** From 337 patients, 82 (24.3%) were females and 255 (75.7%) were males. The most common age among the patients was over 60 years, whereas the mean age was lower in men - 63.8 years and 66.4 years for women. According to the patient's residence place, the study results were as follows: urban - 182 cases (54%) and rural 155 cases (46%). From 337 patients, 145 (43%) patients used tobacco. Occupational risk factors were the etiologic reason in 31 (9.2%) patients. No one of the cases had *Schistosoma haematobium* parasite as etiologic factor. **Conclusions.** Bladder cancer occurs more often in men with a mean age over 65, particularly in urban areas. The most commonly risk factors detected, based on this study are smoking, inflammation, infections, occupational factors and radiation exposure.

## TRAITEMENT CHIRURGICAL DES TUMEURS DE LA VESSIE URINAIRE ET IMMUNOTHÉRAPEUTE DU BCG. PROPRES RÉSULTATS

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### ABSTRAITE

**Introduction.** Le TURV et le bacille de Calmette-Guérin représentent le traitement et la norme actuels pour le cancer de la vessie non-musclé invasive intermédiaire/ à risque élevé. La chirurgie TURV sans instillation de BCG échoue dans une mesure considérable chez les patients atteints d'un cancer primaire de la vessie, malgré l'application de la technique «En Bloc». **Matériel et méthodes.** Une étude rétrospective a été menée au cours dans la période 2018-2022. La résection transurétrale de la vessie a été réalisée chez 60 patients atteints de tumeur primaire de la vessie et 20 patients atteints d'une tumeur récurrente. Tous

les patients ont été évalués postopératoirement de 3 mois à 1 an. **Résultats.** Chez 12 patients, un traitement instillationnel par Doxycycline « single shot » a été appliqué au stade postopératoire immédiat avec une rechute à 6 mois d'environ 25%. À 3 mois, les patients ayant subi une seule résection sans traitement par le BCG présentaient un taux de récurrence de 34,3%. La thérapie instillationnelle par le BCG a été appliquée après la première résection chez 50 patients selon le schéma 6 + 3 + 3, avec le taux de rechute, examiné par le tissu post-BCG, de 10% à 1 an postopératoires. **Conclusions.** Pour le cancer de la vessie urinaire le TURV et le traitement par instillation du BCG réduisent considérablement le taux de rechute.

## MICROBIAL SPECTRUM AND ANTIBIOTIC RESISTANCE IN THE UROLOGY DEPARTMENT "TIMOFEI MOSNEAGA" PMI REPUBLICAN CLINICAL HOSPITAL

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### ABSTRACT

**Introduction.** Urinary tract infection (UTI) is one of the most common infections encountered in clinical practice, and microbial resistance is currently one of the most serious threats to global health. **Objective of the study.** To identify the bacterial spectrum causing UTIs in the urology department of the «Timofei Moșneaga» Clinical Hospital in 2022 and its antibiotic resistance. **Material and methods.** Retrospective study of urine culture results, collected in the urology department of the «Timofei Moșneaga» Clinical Hospital during 2022, samples were examined using VITEK 2 Compact (bioMérieux). **Results.** Total: 900 samples, sterile - 597 (66.33%), 303 (33.67%) showed bacterial growth ( $>10^5$ ), of which *E. coli* - 76 (28%) cultures, sensitive to amikacin in 88.16% cases, to nitrofurantoin in 86.84%

cases, to amoxicillin/clavulanate in 69.74% cases, and pan-resistant in 1.31% of cases; *Klebsiella* spp. - 66 (25%) cultures, sensitive to amikacin in 62.12% cases, to meropenem in 40.9% cases, to amoxicillin/clavulanate in 39.39% cases, and pan-resistant in 12.12% of cases; *Enterococcus faecalis* - 53 (20%) cultures, sensitive to ampicillin in 71.7% cases, to amoxicillin/clavulanate in 67.92% cases, to piperacillin/tazobactam in 62.26% cultures; *Pseudomonas aeruginosa* - 21 (8%), sensitive to amikacin in 47.62% cases, to meropenem in 47.62% cases, to piperacillin/tazobactam in 19.05% cases, and pan-resistant in 14.29% of cases; the remaining 87 (19%) cultures were other species. **Conclusions.** Urine cultures that were examined from the patients hospitalized in Urology Department in 2022, was determined: a higher incidence of *Klebsiella* spp. and *Enterococcus faecalis*, high sensitivity to aminoglycosides and aminopenicillins.

## MICROBIAL SPECTRUM EVOLUTION AND ANTIBIOTIC RESISTANCE IN URINARY TRACT INFECTIONS

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### ABSTRACT

**Introduction.** Antimicrobial resistance is a global public health problem that can lead to treatment failure, increased mortality and morbidity associated with urinary tract infections. **Objective.** To evaluate the results of urine cultures collected at T. Mosneaga Clinical Hospital, with a focus on identifying the evolution of microbial spectrum and antibiotic resistance. **Material and methods.** A retrospective study was conducted involving analysis of urine culture results collected from hospitalized patients between 2018-2021. A total of 22,076 urine cultures were included. Urine cultures were collected within the first 48 hours of hospitalization. **Results.** Out of the total of 22,076 urine samples, 5,500 were positive for pathogens (24.9%). Gram-negative microorganisms (Enterobacteriaceae - 60%) were

the most commonly identified, with a decreasing incidence over the years, followed by Klebsiella pneumonia (20%) and Pseudomonas aeruginosa (10%), the latter showing an increasing incidence. Sensitivity was higher (85%) for antibiotics from the aminoglycoside group (amikacin), while preparations from the fluoroquinolone group (ciprofloxacin) showed lower sensitivity (37%). **Conclusion.** It has been demonstrated that over the reference years, the evolution of the microbial spectrum was characterized by an increasing incidence of Klebsiella P. and Pseudomonas A., with a corresponding decrease in the incidence of Enterobacteriaceae. The identified agents showed increased sensitivity to aminoglycosides and significant antibacterial resistance to fluoroquinolones. The most spectacular evolution was recorded during the Covid-19 pandemic (2019-2020).

## THE PHENOMENON OF ANTIBIOTIC RESISTANCE IN URINARY TRACT INFECTIONS IN THE UROLOGICAL CLINIC

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### ABSTRACT

**Introduction.** Efficacy of antibiotics are confirmed by clinical results, however irrational use: exaggerated doses, the use of last resort antibiotics, the patient's non-compliance with the treatment plan, the interruption of antibiotic therapy, the lack of need for the use of antibiotic therapy etc. results in the development of antibiotic resistance. Problem whose severity progresses with time, a fact also encountered in the urological clinic.

**Objective.** Retrospective data analysis of microbial antibiotic resistance and the usefulness of the measures undertaken to combat its progression in Municipal Clinic Hospital (MCH) "Sfânta Treime", Urology Department, 2018-2022 period.

**Material and methods.** The statistical data for the period 2018-2022 from bacteriological laboratory of MCH "Sfânta Treime" were analyzed. Data were

processed using Microsoft Excel and Statistica 7.

**Results.** The most common bacteria met in the urology department were *Klebsiella pneumoniae*-24 %, *Enterococcus faecalis*-32%, *E.Coli* 28%, *Pseudomonas aeruginosa* 6%, other 10%. During 2018-2019 a progressive development of antibiotic resistance was observed in the isolated bacteria mentioned above. The data for 2020 are only available for the first semester, the cause being the SARS-CoV2 pandemic, which made it impossible to properly monitor the hospital microbial spectrum. After Adjusting the antibiotic therapy according to international protocols, the years 2021-2022 don't show any change in the microbial spectrum nor the level of antibiotic resistance. **Conclusion.** Compliance with internationally approved treatment schemes has stalled the progression of antibiotic resistance within the Urology section of the MCH "Sfânta Treime".

## ACUTE PYELONEPHRITIS IN UROLOGICAL PRACTICE – ETIOLOGY, DIAGNOSIS AND TREATMENT

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### ABSTRACT

**Introduction.** Urinary tract infection is one of the most frequent bacterial infection in the development countries. Currently, the diagnosis and treatment of Acute Pyelonephritis (AP) was significantly improved. **Material and methods.** In the prospective study were included 196 patients with AP and a group of 22 patients with AP in pregnancy urgently admitted in the Urology Department Republican Clinical Hospital between January 1, 2017 and December 31, 2023. **Results.** The duration of hospitalization of urgently hospitalized patients with AP was between 3 and 28 days. Acute pyelonephritis occurs with a higher frequency in young adults, and in the case of acute pyelonephritis in pregnancy (APP), it occurs with a higher incidence in the 2nd and 3rd semester. The

symptomatology of AP and APP in the groups of patients included in the study was: renal colic - lumbar pain was observed in 189 (92.6%) cases; fever in 198 (90.8%) cases; dysuria in 71(32.5%) cases; nausea 55 (25.2%) cases; vomiting in 35(16%) cases. The complications of PNA were; renal abscess 23 (10.5%) cases, acute renal carbuncle 42 (19.2%) cases, pyonephrosis 2 (0.4%) cases, paranephric abscess - 5 (2.2%) cases, toxic-septic shock - 4 (1.8%) cases. **Conclusions.** Acute pyelonephritis is the most serious form of urinary infection and requires hospitalization in urology or intensive care units for emergency treatment. In acute obstructive pyelonephritis, drainage of the urinary tract and prescription of large spectrum of antibiotics is crucial to prevent the development of life-threatening complications.

## THE USE OF ANTIBODY-COATED BACTERIA IMMUNOLOGICAL TEST IN THE DIAGNOSIS OF INFLAMMATORY PROCESSES IN THE KIDNEYS AND URINARY TRACT

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### ABSTRACT

**Introduction.** Bacteriological investigation of urine presents a summary indication of inflammatory processes components. Some authors describe the presence of immuno-inflammatory phenomena in the urinary system that allow their staged detection.

**Objective.** Presents an interest the interaction of immunological tandem formed by the immunity of the renal parenchyma (imposed by germs) and bacteria detected in the urinary tract. **Methods.** The urine of 32 patients (19 women, 13 men) who were treated in the urology clinic with various inflammatory processes was investigated. Pyuria was present in most cases. The bacteriological examination allowed the detection of more than 1000 bacterial germs in 1 ml of examined urine. The immunological urine investigation was performed by Shestakova V.P. (2015) method.

In order to determine the antibody-coated bacteria (ACB), the freshly harvested urine was centrifugated. Inactive suspension of staphylococci from the Cowan-1 strain, which contain Protein A antiglobulin in their coat, was added to 1 ml of centrifuged. **Results.** If agglutination occurs, the test is considered positive. Bacteria contain fixed antibodies (pyelonephritis). The lack of agglutination and therefore of ACB indicates the presence/absence of an inflammatory process in the lower urinary tract (LUT). **Conclusions.** The lack of ACB even when pyuria is present indicates a location of the infection in LUT. Only the presence of the positive agglutination process expressed by the bacteria covered with antibodies shows the inflammatory process in the kidneys. Renal parenchyma is a stronger immune substrate than LUT immunity.

## NOCTURIA – A CRITICAL ASSESSMENT OF CURRENT DIAGNOSTIC AND TREATMENT ERRORS

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### ABSTRACT

**Introduction.** Nocturia being a part of LUTS and BPH symptomatology has been historically associated with prostate or bladder pathology. Currently, the diagnostic tools used to assess the severity of LUTS/BPH symptoms do not allow the differential diagnosis between nocturia of obstructive or irritating etiology and nocturnal polyuria. The International Society of Continence (ISC) classifies nocturnal polyuria as the volume of nocturnal urine divided by the 24-hour urine volume, this ratio being defined as the nocturnal polyuria index (NPI). Thus, according to ISC, nocturnal polyuria is when  $NPI > 20\%$  in young people and  $NPI > 33\%$  in people over 65 years old. **Material and methods.** A group of 44 patients (18 patients <65 years and 26 patients > 65 years) with nocturnal symptoms as the main complaint was analyzed. Main inclusion criteria -  $NPI > 33\%$ . 33 patients - with an anamnesis of evaluation and treatment, 11 patients addressed primarily. The patients age ranged from 41 to 72 years, with an average of 54.2 years. The results of the following assessments were analyzed: IPSS standardized

questionnaire, TRUS-P with residual urine and Stamey-Meares probe. **Results.** According to the results of IPSS, 34(77,27%) were assessed with mild severity and 6(27,73%) with moderate symptomatology. The analysis of the answers identified 0 points for questions 1-6 in 35(79,54%) of the cases, most of the points being accumulated on the account of questions 7 and 8 for all those included. At question 7, 40(90,9%) patients get 3 to 5 points and 27(79,41%) of those with mild symptoms get 5 or 6 points for question 8. The volume of the prostate was estimated from 23,4ml to 88,56ml, with an average of 45,34ml. Absent residual urine was identified in 37(84,1) and in 7(15,9%) it was below 50 ml. The positive Stamey-Meares test was identified at 7(15,9%). Of those with a history of evaluation and treatment, 26(78,8%) were treated for prostatitis and 13(39,4%) had prostate surgical treatment. **Conclusions.** The diagnostic tools for LUTS / BPH are insufficient to assess all the etiological causes of nocturia. Nocturia significantly affects patients' quality of life, and the total IPSS score wrongly assess the degree of impairment.

## RIGHT TESTICULAR VOLUME CAN HAVE A GREATER IMPACT ON OVERALL FERTILITY THAN LOWER LEFT TESTICULAR VOLUME

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### ABSTRACT

**Introduction.** The volumetric predominance of one testis over the other, also known as testicular asymmetry, has been proposed as a prognostic factor for varicocele repair, with a cutoff for the significance of 20%, and for the evaluation of the functional capacity of small testes, particularly in patients with a history of cryptorchidism. At the same time, we commonly see patients whose right testicle is to varying degrees smaller as the left testicle. **Methods.** The study included 64 patients with idiopathic severe OAT syndrome which were evaluated for: testicular volume, using testicular volume were calculated Testicular Asymmetry Ratio (TAR= Right Testicular Volume/Left Testicular Volume) and were correlated with the semen parameters. **Results.** Following data analysis, 32 (50%) of the 64 patients with severe

OAT syndrome of unknown cause were found to have TAR 1, 19 (29.7%) to have TAR=1-1,2, and 13 (20.3%) to have TAR>1.2. For TAR=1,0, the median values were 0.86 [0.75-0.92], for TAR=1-1,2, the median values were 1.07 [1.05-1.12], and for TAR>1,2, values were 1.33 [1.25-1.49]. This points out that individuals with significant RT pathologic asymmetry have higher TV than individuals with large LT pathologic asymmetry. In the instance of lower RTV linked with TAR 1,0 the mean volume was higher than mean LTV with TAR > 1,2. **Conclusions.** According to observations, males whose right testicle is smaller in volume than their left testicle frequently have substantial changes in the quality of their semen. We might conclude that lower RTV can have a greater impact on overall fertility than lower LTV given that all individuals included in the study had nearly identical semen outcomes.

## ERECTILE FUNCTION EVALUATION IN CORRELATION WITH SLEEP DISTURBANCES

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### ABSTRACT

**Introduction.** Obstructive sleep apnea (OSA), defined by frequent bouts of upper airway collapse while sleeping, affects 10% of middle-aged males. When an OSA event occurs, the oropharynx collapses, resulting in alertness, decreased oxygen saturation, and sleep fragmentation. Patients with OSA were reported to have erectile dysfunction (ED). Patients with OSA had an ED incidence that varied from 40.9 to 80%. OSA severity measured by the Apnea-Hypopnea Index (AHI) and oxygen saturation levels below 90% during sleep were linked to a changed bulbocavernosus reflex. **Methods.** The study included 32 men with snoring symptoms. Mean age was 45,56±9,09 years. Polysomnography records were done, measuring the oxygen level, heart rate and breathing during sleep. IIEF-5 and IPSS were done for clinical

symptoms. Additional, hormonal profile was performed. **Results.** Mean body mass index values was 34,04±6,60. Accordingly with IIEF-5 scoring, no one was found with severe ED, 6.3% with moderate ED, 56.3% with middle ED and 37,5% with absence of ED. Following IPSS results, mild lower urinary tract symptoms were found in 43,8% and 56,2% with moderate symptoms, severe symptoms were not reported. AHI mean value was 46,23±15,48 and mean oxygen desaturation index 39.73±22,63. Mean SpO<sub>2</sub> level was 90,72%±2,65 and lower SpO<sub>2</sub> mean level was 73,81±9,59. Heart rate mean values were reported being 69,47±7,63. Total testosterone was found to be low, mean values were 201±43,77. **Conclusions.** The data analyses showed an overage ED symptom associated with OSA in 62,6%. Obesity and low testosterone level could have a major impact on erectile function in patients.

## HISTOLOGICAL AND IMMUNOHISTOCHEMICAL EVALUATION OF TESTICULAR BIOPSIES AFTER MICROSURGICAL TESTICULAR SPERM EXTRACTION IN PATIENTS WITH AZOOSPERMIA

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### ABSTRACT

**Introduction.** Azoospermia can be obstructive (OA) and non-obstructive (NOA). Given the increased incidence of maturation arrest histological phenotype, it is now becoming increasingly difficult to estimate azoospermia type before histological assessment. The micro-TESE techniques allow the identification of foci of spermatogenesis in non-obstructive forms and only the histological examination will provide an objective and definitive testicular phenotype. For greater accuracy, immunohistochemical techniques are needed in order to assess additional risks. **Material and methods.** 23 testicular biopsies were studied, obtained from 12 patients with azoospermia. Presumably 8 patients with ANO and 4 patients with AO (according to testicular volume, FSH, LH, genetic evaluation). All 23 preparations with tissue fixation in Bouin solution for at least 24 hours. Conventional histopathological evaluation was done for all stainings with immunohistochemistry for PLAP, MAGE4, INSL3 antigen in selected

patients. **Results.** The histological results confirmed in 10 cases the diagnosis of NOA, 2 cases with the prediction of OA before intervention was not confirmed. The histological phenotype Sertoli cell-only syndrome, complete form, was found in 7 cases, the maturation arrest, also complete form, was found in 1 case and mixed atrophy in 2 cases. All preparations (18) were evaluated negatively for PLAP antigen. MAGE4 antigen was positively confirmed in 5 cases - 2 cases with OA, 2 cases with mixed atrophy and 1 with maturation arrest. MAGE4 was absolutely negative in biopsies of patients with Sertoli cell-only syndrome. INSL3 antigen was strongly fixed in tissues with OA and maturation arrest, significantly less fixation was observed in tissues with Sertoli cell-only syndrome and mixed atrophy. **Conclusions.** Hormones, ultrasound evaluation of the testicles, testis volume and available genetic tests have a predictive value in differentiating OA from NOA. The histological and immunohistochemical evaluation is accessible, establishes the testicular phenotype accurately and guides us in the patient's management.

## THE IMPACT OF SPORTS SUPPLEMENTS ON SEXUAL AND REPRODUCTIVE HEALTH IN MEN

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### ABSTRACT

**Introduction.** Approximately 60% of the population of reproductive age has a high intake of supplements. Among the most popular sports supplements used are protein (51.2%), creatine (22.9%) and pre-workout/energy (20.7%), and the reasons for taking the supplements were to improve exercise recovery (52.6%), general health (51.4%) and increased muscle mass/strength (41.7%). However, little is known about how consumption of these products affects male reproductive health. **Material and methods.** A detailed review of the specialized literature was carried out to detect all available documents that investigated adverse effects of dietary supplements and their mechanism on male fertility. A literature search was performed using the Google Scholar, PubMed, SCOPUS and Science Direct databases without time limitations using the keywords: «sport supplements,» „caffeine,» «creatine,» «protein powders,» «sperm quality,» and «male fertility». **Results.** Research shows that caffeine can damage sperm cells by breaking up their DNA and causing them to have an abnormal number of chromosomes, caffeine intake above 200mg per does appear to affect reproductive hormones particularly associated with a decrease in

oestradiol (oestrogen) concentration, at the same time no association was found between caffeine consumption and any fertility related outcomes. Creatine can increase the level of adenosine triphosphate (ATP) in sperm cells, thereby increasing motility. The right amounts of BCAAs in whey protein powders have a synergistic effect on sperm function and testosterone production, resulting in increased fertility. Protein supplements do not have a direct negative effect on male fertility, considering that 23 of 24 protein supplements contained undeclared anabolic androgenic steroids, it may affect reproductive system. Abstinence from protein supplements resulted in a significant increase in median sperm concentration, which was 2.6 times higher than the baseline median sperm concentration, another study found protein does not significantly impair sperm quality and may even improve sperm motility. **Conclusions.** Most supplements used in sports are rarely discussed when it comes to male fertility and there is not enough research on this topic. However, not all supplements are harmful to fertility, some of them appear to have a relatively neutral or have been shown to improve not only sperm concentration, but also motility and morphology.

## HOW DO WE TREAT THE INFERTILE MAN AFTER 40?

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### ABSTRACT

**Introduction.** Unlike the sudden decline in reproductive capacity in women, men can maintain a certain level of reproductive function throughout their lives. However, studies show that with advancing age, the production of reproductive hormones, sexual function, the number and quality of sperm and fertility decreases. Advanced parental age is a risk factor for the occurrence of genetic mutations at the sperm level, congenital malformations or other diseases. At the same time, due to certain social, economic or medical situations, many couples address fertility problems at a relatively advanced age. **The purpose** of the research was to assess the causes and outcomes of treatment of infertile men over 40 years of age. **Material and method.** The study included 67 male infertility patients aged from 40 to 65 years (mean age  $46 \pm 4.7$  years). 21 with primary infertility and 46 with secondary infertility. The complex andrological evaluation established 9 (13%) men with azoospermia, 29 (41%) men with oligoasthenoteratospermia, 1 (1.5%) with aspermia, 1 (1.5%) with retrograde ejaculation, 27 (40%)

men had had other changes in the spermogram or normospermia (7/10%). The instituted treatment was pathogenic in 19 (28%) cases in which we detected concrete causes of infertility (urogenital inflammation, hydrocele, hyperprolactinemia). In 40 (63%) men we prescribed empiric treatment for infertility (antioxidants, aromatase inhibitors, follicle-stimulating hormone) and treatment for concomitant diseases (diabetes, prostate adenoma, erectile dysfunction). In 8 men (9%) we have recommended fertilisation techniques or adoption as a first option. **Results.** We obtained the improvement of the spermogram parameters at an interval of 6 months in 36 (59%) patients, including in 14 (21%) men, up to normospermia or with a significant reduction in the degree of sperm DNA fragmentation. In 15 (25%) patients we recommended in vitro fertilization. **Conclusions.** The diagnosis and treatment of infertility in the elderly man has several peculiarities due to the increase in the incidence of idiopathic or unexplained infertility. Lifestyle modification and antioxidant therapy seem promising, but studies and strategies are needed to maintain and optimize the fertility potential of the elderly man.

## PECULIARITIES OF TREATMENT IN IDIOPATHIC MALE INFERTILITY

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### ABSTRACT

**Introduction.** Idiopathic male infertility has an incidence of about 40%. It is a form of infertility that is easy to diagnose and difficult to treat. There are currently no evidence-based treatment guidelines for idiopathic infertility. Treatment protocols that are not based on evidence present a potential risk of complications or additional expenses and are not recommended by professional scientific societies. At the same time, the large number of patients, the high costs of in vitro fertilization techniques and the questionable success rate require the search for new therapeutic solutions that can be applied on a large scale. **Material and methods.** The study was conducted on 180 patients aged 23 to 48 years with male infertility considered idiopathic. All patients were advised to follow a healthy lifestyle, excluding harmful factors (smoking, alcohol abuse, pesticides, etc.). Antioxidant treatment was prescribed that included vitamin and mineral complexes, with an emphasis on those containing zinc, L-glutathione, selenium, folic acid, vitamin E, carnitine, L-arginine. 146 (81%) patients with hypovitaminosis D were prescribed vitamin D in

doses from 2000U to 8000U. 165 patients with dyslipidemia were prescribed natural supplements with an anti-inflammatory effect, and nutritional recommendations. Selective estrogen receptor modulators (clomiphene citrate) or aromatase inhibitors (anastrozole) were prescribed to 18 patients. The patients were evaluated at intervals of 3, 6 and 9 months. **Results.** The improvement of spermogram parameters at the 9-months interval occurred in 124 (68%) patients, including 49 (27%) at the 3-months interval. Complete restoration of spermogram parameters was in 37 (20%) patients. In patients with obesity and dyslipidemia, positive correlations were observed between the improvement of spermogram with the decrease of body mass and lipidogram. At the same time, 24 (13%) patients refused to continue the treatment after 3 months. **Conclusions.** The patient with idiopathic male infertility requires individual approach. We believe that before resorting to in vitro fertilization techniques, especially in obese patients or patients with dyslipidemia, it is necessary to recommend empirical antioxidant treatment along with a recommendation to modify the lifestyle.

## COULD SEXUAL DYSFUNCTIONS BE A CAUSE OF UNEXPLAINED MALE INFERTILITY?

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### ABSTRACT

**Introduction.** Sexual disorders such as erectile dysfunction, premature ejaculation or delayed ejaculation are underestimated in the assessment of infertile couples. Sexual dysfunctions are considered to occur more frequently in infertile couples because of psychogenic, relational and/or organic problems related to the inability to conceive. There are studies that state that changing spermogram thresholds are associated with the severity of erectile dysfunction, and men in infertile couples more frequently have premature ejaculation. At the same time there are few studies that would claim that male infertility is a consequence of sexual dysfunction. The cause of infertility is unexplained in about 20-30% of cases. Although the likelihood of a spontaneous pregnancy in couples with this form of infertility is higher than in other forms of infertility, clinicians are still searching for possible causes of the problem. The aim of the study was to assess sexual function in couples with

unexplained infertility. **Material and methods.** The study included 38 men aged 23 to 46 years with unexplained infertility, who completed the Erectile Function Evaluation Questionnaire (EFIQ) and the Premature Ejaculation Diagnostic Tool (PEDT). **Results conclusions.** Absence of erectile or ejaculatory dysfunction was present in 23 (60%) men. 12 (31%) patients had erectile dysfunction of various degrees, excluding 2 (5%) severe erectile dysfunctions. 17 patients had ejaculatory dysfunctions, 1 (2.6%) traditional ejaculation, 16 (42%) premature ejaculation, including 5 (13%) with premature ejaculation and erectile dysfunction. **Conclusions.** It is difficult to state that the sexual dysfunctions detected were the cause of infertility in the couple, but it is certain that pregnancy occurred after treatment in 2 cases. We recommend the inclusion of erectile or ejaculatory function determination questionnaires in the evaluation of all men in couples with unexplained infertility.

## DIAGNOSTIC FEATURES OF IDIOPATHIC MALE INFERTILITY

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### ABSTRACT

**Introduction.** Male infertility has an incidence of about 6-10%. Despite the diagnostic progress, in about 30-40% the causes of infertility remain unknown or unrecognized and it is considered idiopathic. At the same time, the complex evaluation of the infertile man allows to diagnose some diseases or clinical situations with a potential negative effect on fertility. **The objectives** of the paper are to present some diagnostic peculiarities of male infertility in order to reduce the number of unknown causes of infertility. **Material and methods.** The study included 187 consecutive patients with idiopathic male infertility aged from 23 to 49 years, in whom the causes of the problem were not detected after the standard andrological evaluation. In all patients, the lipid profile (cholesterol, LDL, HDL, Triglyceride), 25-OH-VitD, blood sugar, thyroid hormones and oxidative stress in the sperm were additionally performed, and optionally sperm DNA fragmentation. **Results.** Increased level of cholesterol, triglycerides

or dyslipidemia was determined in 126 (67%) patients, respectively in 6 (17%) of 35 patients with a BMI <25, in 51 (70%) of 72 overweight patients (BMI 25-29.9) and in 69 (86%) of 80 obese patients (BMI >30). Blood sugar was increased in 22 (11.7%) patients, and hypovitaminosis D was diagnosed in 149 (79%) patients with infertility. At the same time, 4 (2%) patients were diagnosed with thyroid dysfunctions. Increased level of oxidative stress in sperm was detected in 119 (63%) patients. Out of 51 patients in whom spermal DNA fragmentation was performed, only 9 (17%) patients had a low degree of fragmentation (up to 15%). **Conclusions.** Idiopathic male infertility requires not only the use of standard diagnostic techniques but also additional examinations. Lipid profile, blood sugar, oxidative stress in sperm and sperm DNA fragmentation are important parameters in the evaluation of idiopathic infertility. At this moment, we cannot say for sure that the detected metabolic disorders are the cause of infertility, but they can serve as a guiding indicator in further assessment and treatment.

## THE ROLE OF BARIATRIC SURGERY IN THE TREATMENT OF MALE INFERTILITY AND MORBID OBESITY

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### ABSTRACT

**Introduction.** Obesity is a major public health problem causing temporary or permanent disability and reduced life expectancy. Recent studies incriminate obesity in the development of male infertility. Infertility is identified in about 70% of morbidly obese men over the age of 35. There are pertinent statements recommending treatment of male infertility through weight loss and normalization of BMI. One of the most effective methods of treating morbid obesity is bariatric surgery. **The aim** of the paper is to evaluate the role of bariatric surgery in the treatment of male infertility through the presentation of a clinical case and review of the literature. **Material and methods.** A case of a 43-year-old patient with BMI 42 with

secondary infertility, functional hypogonadism and erectile dysfunction is studied. Sperm volume 1.4 ml, 1.2mln spermatozoa per/ml, progressive motility 15% and normal morphological forms 1%. Total testosterone 170ng/dl and SHIM index 14. The patient underwent bariatric surgery, followed for 3 months antioxidants and was evaluated 9 months after surgery. **Results.** BMI - 26, SHIM index -22, sperm volume 3.2 ml, 18 mln sperm per/ml, progressive motility 31%, normal morphology 5%, total testosterone 456 ng/ml. **Discussion and conclusions.** As a result of bariatric surgery weight loss, significant improvement of erectile function, spermogram parameters and considerable increase of testosterone level were obtained. Bariatric surgery can be considered a viable treatment option for male infertility in morbidly obese men.

## ROLE OF TESTOSTERONE CONCENTRATION IN MALE PATIENTS WITH NAFLD

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### ABSTRACT

**Introduction.** Sex steroids have a direct impact on hepatic and systemic metabolism, thus implicating the pathobiology of NAFLD. The association between serum testosterone concentrations and NAFLD in men is one of the dysfunctions that interests specialists, also having an impact on the patient's quality of life. We investigated the relationship between total testosterone and inflammatory and fibrotic progression NAFLD. **Material and methods.** In this cross-sectional study, 35 men with NAFLD were recruited. Serum testosterone concentrations were measured by immuno-chemiluminescence. In order to further identify grade of steatosis and liver fibrosis in patients with NAFLD we used ultrasound and

FibroScan with CAP score. **Results.** Average age of patients - 51.2 years. We found negative correlations between testosterone levels and inflammation status. Thus, we obtained the negative correlations between T and ALT ( $p < 0.1$ ) and hypertriglyceridemia ( $p < 0.05$ ). Testosterone level was negatively associated with F4 fibrosis grade ( $p = 0.01$ ) but did not correlate with F1-F3. At the same time, an insignificant positive correlation was observed between the level of testosterone with the degree of steatosis and with waist circumference ( $p > 0.5$ ). **Conclusion.** Our results indicate that in male patients with NAFLD, testosterone may play a role in inflammatory and fibrotic progression of NAFLD. And, understanding this change may help clinicians personalize treatment strategy for male NAFLD patients.

## GENETIC POLYMORPHISMS ASSOCIATED WITH FOLATE CYCLE DISORDERS (MTHFR, MTR, MTRR) AS A FACTOR OF INFERTILITY OR REPRODUCTIVE LOSSES

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### ABSTRACT

**Introduction.** Currently, folate cycle and one-carbon metabolic pathway are being studied at the molecular level, as a potential genetic risk factor that can be associated with reproductive losses (spontaneous abortion, pregnancy stagnated in evolution), through intracellular homocysteine accumulation. **Objectives.** Evaluation the genotypes of the folate cycle genes (MTHFR677; MTHFR1298; MTR2756; MTRR66) with evaluation of the intensity expression of biochemical factors (folic acid, homocysteine, vitamin B12) in etiology of reproductive losses in women and infertility in men. **Material and methods.** 382 patients were included in the study, with mean age  $31.9 \pm 6.1$  years, they were divided 4 study groups (women with a history of reproductive

loss pregnant women with complicated progress, and men with infertility) and 2 control groups of women and men. **Results.** The TT genotype of the MTHFR677 gene will increase the level of homocysteine, the transition from the category CT to TT will increase the value of the homocysteine by 1.93 units. There are no differences in the level of vitamin B12 and folic acid depending on the genotype variant. **Conclusions.** The distribution of gene polymorphisms in the control and study groups didn't show statistically significant differences. The presence of reproductive losses in the anamnesis is reflected in higher levels of homocysteine, regardless of biological sex, but with statistical significance only in men and the level of folic acid in men with infertility is lower than the group of control women.

## ACUTE SCROTAL SYNDROME IN CHILDREN

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### ABSTRACT

**Introduction.** Acute scrotal syndrome in children is one of the urological emergencies, the medical management of which depends on early diagnosis, also resulting from the fact that only a few hours of delay can permanently compromise the affected testicle. The functional results demonstrate that in supravaginal torsions that belong to the age of the newborn, the testicles are lost in almost 100% of the cases, whereas in intravaginal torsions the losses constitute 20-80%. **Aim of study.** Presentation of curative surgical limits in the treatment of acute scrotal syndrome, to reduce complications and improve the chances of survival of the affected

testicle. **Material and methods.** The statistical analysis was carried out patients aged between 0 and 18 years. During 2022, 49 children were hospitalized with the diagnosis of acute scrotum, 7 children with testicular torsion, 43 children for the excision of the Morgagni hydatid. Compared to the year 2021, 23 people came with acute scrotum, 2 testicular torsion, 21 Morgagni hydatid torsion. **Results.** The results of the study demonstrate that late torsion leads to the impairment of the spermogram in 50% and the increase in the rate of complications in patients. **Conclusions.** In the given study, we elucidated the etiopathogenesis, the anatomical-physiological, clinical-paraclinical features of acute scrotal syndrome.

## DISTANT SURGICAL TREATMENT RESULTS IN PRIMARY OBSTRUCTIVE MEGAURETER IN CHILDREN

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### ABSTRACT

**Introduction.** The medical-surgical treatment of primary obstructive megaureter remains a relevant and debatable topic. **Aim of study.** To analyze the long-term results of children with primary obstructive megaureter at the State University Hospital «*Nicolae Testemitanu*» urology department between 2013 and 2019. 20 children with primary obstructive megaureter grade III-IV-V were operated, with 14 males and 6 females between 3 months to 11 years of age. The diagnosis was established based on clinical and paraclinical examination (ultrasound, intravenous urography, dynamic renal scintigraphy). **Results.** The cause of primary obstructive megaureter was found to be neurogenic dysplasia of the ureterovesical segment, with unilateral involvement in 11 cases and bilateral

involvement in 9 cases. Surgical interventions were performed using the Lich-Gregoir method. Long-term results were assessed at 1-6 months and 1, 3, and 5 years post-operation. Satisfactory results were found in 14 cases (70%), relatively satisfactory in 4 cases (20%), and unsatisfactory in 2 cases (10%). Late postoperative complications were observed in 2 cases, and both were surgically resolved. **Conclusions.** Primary obstructive megaureter is considered one of the most severe forms of obstructive uropathies that can lead to Chronic Kidney Disease. The surgical correction of megaureter is aimed at eliminating obstruction and restoring urodynamics. Therefore, prenatal diagnosis and determining the appropriate time for surgical correction are crucial for improving the quality of life of children with primary obstructive megaureter.

## BLADDER DIVERTICULA IN CHILDREN

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### ABSTRACT

**Introduction.** The bladder diverticula are cavities of different sizes that communicate with the bladder through a usually narrow hole, often located on the side walls and in the vicinity of the ureters. Clinically they can be asymptomatic, or cause of urinary tract infections with rebellious piuri. **Aim of study.** Analysis of specialized literature and personal studies on the clinical cases of children with bladder diverticula. **Material and methods.** The work presents 3 patients with bladder diverticula, who were on treatment for a period of 2 years. **Results.** The age of children with congenital diverticuli was 9 months, 3 years

and 5 years, of which 2 boys and a girl. Clinically all patients had urinary infection, two - stroke urination, suprapubic pain - in 1 child. The clinical examination was completed by the ultrasound of the urinary system, laboratory examinations, cystoscopy, micational cystography, intravenous urography. In two children the bladder diverticuli located on the left was implanted in the ureter. In them, the excision of the diverticulum was done with the neomyplantation of the ureter procedure Leadbeter-Polytano, and in another child - the excision of the diverticulum with the suturation of the bladder. **Conclusion.** In some patients, bladder diverticulum evolves latently, asymptotically and are discovered on the occasion of a cystoscopy.

## CONGENITAL ANOMALY OF URETERS IN CHILDREN

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### ABSTRACT

**Introduction.** Congenital anomalies of the ureters in children are a significant concern in pediatric urology. One such anomaly is the double kidney, where there are two non-delimited or partially delimited parenchymal masses, each with their own collecting system and ureter. This condition results from the division of the metanephrogenic blastema of the ureter during development. The incidence rate of this anomaly is 2:1 in females, and it can be asymptomatic or present with various symptoms, such as fever, hydronephrosis, colic, and renal lithiasis. Diagnosis is established through prenatal or postnatal ultrasound, urography, and cystoscopy. **Aim of study.** To present the clinical case of a patient with a double bilateral kidney, bilateral megaureter, ectopic ureterocele, and nonfunctional

upper renal pelvis on the right. **Material and methods.** Analysis of the specialized literature in terms of the clinical case of a patient with reno-urinary congenital anomaly, through the SIAMS intra-hospital search engine. **Results.** The patient, a 2-year-old, presented with abdominal pain, leukocyturia, urinary hesitancy, fever, pallor, and loss of appetite. Ultrasound of the urinary system revealed bilateral double kidneys, hydronephrosis on the right, and ectopic ureterocele. The patient underwent surgical intervention, including heminefroureterectomy and ureteroclectomy of the upper renal pelvis on the right. **Conclusions.** The correction of congenital reno-urinary malformations in children remains an important issue in pediatric urology. However, advances in technology and treatment have improved outcomes for children with these conditions.

## PROSTHESIS IN MALE STRESS URINARY INCONTINENCE: AN UPDATE

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### ABSTRACT

**Introduction.** Stress Urinary Incontinence (SUI) is mostly present in men having undergone prostate surgery (radical prostatectomy for prostate cancer or TURP for Benign Prostate Hyperplasia). It is a bothersome condition, with a significantly negative impression on patients' quality of life, including low self-esteem as well as professional, social and relational restrictions. Nowadays, the gold standard treatment for SUI in men is the implantation of an Artificial Urinary Sphincter (AUS). Apart from this, the development of newer materials leads to the use of suburethral slings in the management of SUI as an alternative to the AUS. **Aim.** We aimed to perform a systematic review concerning the outcomes of SUI surgery, more precisely between the AUS and the suburethral slings, using the most recently published trials. **Results.** A recent non-inferiority study performed in the UK by Constable et al revealed that the slings were non-inferior to the AUS in terms of postoperative continence rates although the sling patients were more likely to have a lower success rate. At 12 months' interval, the incontinence symptoms were

less likely to appear in the AUS patients (mean difference in ICIQUI-SF score for the time point at 12 months: 1.30, 95% confidence interval 0.11 to 2.49;  $p=0.032$ ). The number of serious adverse events was small (male sling group,  $n=8$ ; AUS group,  $n=15$  with one man in the AUS group having experienced three serious adverse events). The authors reported an improvement in Quality-of-life scores as well as an increased satisfaction in both groups. However, the analysis of cost over benefit favored the AUS despite the less expensive sling. Another study concerning the ATOMS male sling performed by the study of Giammo et al on a cohort of 99 male SUI patients revealed that the device had a 74.7% continence rate at follow-up, with 87.9% of devices being in place at 60 months and a necessity for revision in 20.2% of patients. Still, the authors suggested that the results could have been further improved by using the device as the first choice for male SUI surgery. **Conclusion.** AUS remains the gold standard for SUI surgery in men. However, similar results could be obtained in selected patients using the most recent generation of male suburethral slings, especially when using a model that allows adjustments after implantation.

## ROLE OF URODYNAMIC AND CLINICAL FINDINGS IN WOMEN WITH REFRACTORY OVERACTIVE BLADDER

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### ABSTRACT

**Introduction.** Overactive bladder (OAB) is defined as urinary urgency, usually accompanied by frequency and nocturia, with/without urge urinary incontinence, in the absence of urinary tract infections, or other urinary bladder pathology. OAB is more prevalent in women, with overall prevalence increasing with age. The international guidelines recommend after a full basic assessment to be done urodynamic studies (UDS) at refractory OAB patients. **Aim.** Evaluation the importance of urodynamic and clinical values at refractory OAB patients which would reveal the cause of failure of lifestyle interventions, behavioral therapy, and/or antimuscarinic treatment. **Methods.** A retrospective pilot study performed at Urology department, during 2019-2022, included 30 refractory OAB patients, clinical based on voiding diary, OAB Symptom Score questionnaire (OABSS) and on UDS examination. **Results.**

Voiding diary data and OABSS revealed that in 83% of cases patients showed moderate/severe level of OAB symptoms (8,43±2,06). Based on UDS, low values of first sensation of voiding (FSV=76,6±55,1ml), first desire of voiding (FDV=113±100ml), strong desire of voiding (SDV=156±121ml) and maximal cystometric bladder capacity (MCC=176±136,2ml) correlated positively with OABSS. Detrusor overactivity (DO) was confirmed by the presence of detrusor phasic contractions, increased values of detrusor voiding pressure (PdetQ<sub>max</sub>=54±8cmH<sub>2</sub>O) and maximum flow rate (Q<sub>max</sub>=12,2±6,2ml/s). High level of detrusor contractility was obtained by using the projected isovolumetric pressure. **Conclusion.** Based on UDS were obtained statistically significant variables associated with clinical data values that could influence the further treatment decisions and could be used as predictors of effectiveness of third-line therapy in women with OAB and DO.

## SEROLOGIC STATUS PREVALENCE OF VIRAL HEPATITIS A, B, C, AND E MARKERS AT UROLOGY HEALTHCARE WORKERS

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### ABSTRACT

**Objectives.** To determine the seroprevalence level of viral hepatitis markers A, B, C, and E among urological healthcare from department of Republican Clinical Hospital. **Methods.** A cross-sectional descriptive epidemiological study was conducted. Blood samples were collected from medical workers and examined using the enzyme-linked immunosorbent assay (ELISA) method for markers of viral hepatitis A (anti-HAV and anti-HAV IgM), viral hepatitis B (AgHBs, anti-HBcor, anti-HBs), viral hepatitis C (anti-HCV), and viral hepatitis E (anti-HEV IgG and anti-HEV IgM). A total of 49 medical workers were

examined, and 392 laboratory investigations were performed. **Results.** The following seroprevalence levels of viral markers were identified among urology healthcare: AgHBs–2.0±2.0%; anti-HBcor–38.8±7.0%; anti-HBs–51.0±7.1%; anti-HCV– 4.1±2.8%; anti-HAV–100%; anti-HAV IgM–0%; anti-HEV IgG–12.2±4.7%; anti-HEV IgM– 12.2±4.7%. The most affected groups were female individuals, medical assistants or auxiliary personnel, and with a work experience of ≥30 years. **Conclusions.** The results indicate that medical workers in the field of urology can be considered a high-risk group for infection with hepatitis B, C, and E viruses.

## PREVALENCE OF VIRAL HEPATITIS A, B, C, AND E SEROLOGIC STATUS IN UROLOGICAL PATIENTS

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### ABSTRACT

**Objectives.** To determine the seroprevalence level of viral hepatitis markers A, B, C, and E in patients from the urology department of the Republican Clinical Hospital. **Material and methods.** A cross-sectional descriptive epidemiological study was conducted. Blood samples were collected from patients in the urology department of the Clinical Emergency Hospital (SCR) and examined using enzyme-linked immunosorbent assay (ELISA) for the following viral hepatitis markers: anti-HAV, anti-HAV IgM, AgHBs, anti-HBcor, anti-HBs, anti-HCV, anti-HEV IgG and anti-HEV IgM. A total of 234 patients were examined, and 1638

laboratory tests were performed. **Results.** The following seroprevalence levels of viral hepatitis markers were identified among patients in the urology department of SCR: AgHBs – 9.0±1.9%; anti-HBcor – 47.9±3.3%; anti-HBs – 41.0±3.2%; anti-HCV – 7.7±1.7%; anti-HAV – 95.3±1.4%; anti-HAV IgM – 0%; anti-HEV IgG – 17.5±2.5%; anti-HEV IgM – 27.4±2.9%. The most affected groups for hepatitis B and C were females from the central region of the country, while for hepatitis E, males from the northern region were the most affected. **Conclusions.** The results indicate that urological patients can be considered a group at increased risk of infection with hepatitis B, C, and E viruses.

## ACUTE KIDNEY INJURY IN HOSPITALIZED PATIENTS WITH COVID-19

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### ABSTRACT

**Introduction.** Acute kidney injury (AKI) has been reported as a frequent complication among critically ill patients admitted with COVID-19, associated with high mortality and recognized as an indicator of multiple organ dysfunction and disease severity. **Material and methods.** A retrospective study was conducted, including patients with confirmed COVID-19 infection admitted to Republican Clinical Hospital «Timofei Mosneaga» between June 01, 2020 and August 31, 2020. Obtained data were compared between patients with AKI and without AKI. **Results.** Of the 81 patients included in the study, 49 (60,49%) were male and 32 (39,50%) were female. The median age was 61 years (interquartile range - 55-60). Twenty patients

(24,69%) had acute kidney injury, of whom 4 patients (20%) required renal replacement therapy. Of the 20 patients, 5(25%) developed stage I AKI, 7 (35%) developed stage II and 8 (40%) stage III. Risk factors for the development of AKI during hospitalization were: assisted breathing and vasopressor support. Of the twenty patients with AKI and urinalysis, 65% had proteinuria, 45% had hematuria. Mortality rates were significantly higher in patients with AKI (90% versus 36,06%). **Conclusions.** Patients with COVID-19 have a high incidence of acute kidney injury. At the same time, AKI significantly increases the mortality of patients admitted to intensive care units. Of all patients with AKI, only 10% survived with recovery of renal function until discharge.

## THE IMPACT OF COVID-19 PANDEMIC ON GENITOURINARY CANCERS DETECTION IN THE REPUBLIC OF MOLDOVA

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### ABSTRACT

**Introduction.** The new severe acute respiratory syndrome SARS-CoV-2 (COVID-19) has emerged as an alarming disease since December 2019, creating a global health crisis. All over the World, oncological services were suspended, and millions of patients were unable to carry out in time vital investigations or treatments. **The aim.** Were to provide an evidence-informed review of genitourinary cancer detection during COVID-19 pandemic in the Republic of Moldova. **Material and methods.** We analyzed the data from the National Cancer Registry of all newly diagnosed genitourinary cancers from 2019 to 2022. The total number of registered patients and stage were

compared in the targeted periods. **Results.** The overall number of patients decreased from 2019 to 2020 by 15.2% (n = 1184 vs. 1004), then raised by 8% in 2021 and exploded by 30% in 2022 (n = 1092 and 1435). The main increase was observed for renal (26.16%, n = 223 in 2020 vs. 302 in 2022), prostate (34.2%, n = 485 in 2020 vs. 737 in 2022), and penis (38.9%, n = 11 in 2020 vs. 18 in 2022). No significant differences were observed in the incidence of bladder (5.43%, n = 244 in 2020 vs. 258 in 2022) and testicular cancer (7.7%, n = 24 in 2020 vs. 26 in 2022). **Conclusions.** The Covid-19 pandemic had a major impact on the detection of genitourinary tumors, initially leading to a decrease in detection and later to an explosion in the number of cases.

## POSTOPERATIVE COMPLICATIONS OF HYNES-ANDERSON PYELOPLASTY

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### ABSTRACT

**Introduction.** Ureteropelvic junction obstruction is the most common congenital cause of upper urinary tract obstruction, leads to progressive dilatation of the renal collecting system. Hynes-Anderson technique is considered as gold standard with success rate greater than 90%. **The aim** of this study was to evaluate the complications of open Hynes-Anderson pyeloplasty in adults. **Methods.**

In the period from 2014 to 2017 we prospectively evaluated the results of 118 open Hynes-Anderson pyeloplasty. Postoperative complications were reported according to the Clavien-Dindo classification. **Results.** In 24 (20,33%) patients we recorded 27 complications. Clavien I: 3,39% (4), Clavien II: 11,02% (13), Clavien IIIa: 3,39% (4), Clavien IIIb 0,85% (1). **Conclusions.** Open Hynes-Anderson pyeloplasty in adults is associated mostly with Clavien II complications.

## HERNIES LOMBAIRES POSTOPÉRATOIRES

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### ABSTRAITE

**Introduction.** Les hernies lombaires postopératoires représentent environ 20 % du nombre total de complications. Les techniques chirurgicales ont été constamment adaptées afin de prévenir la survenue d'éventrations postopératoires. **Matériel et methods.** Dans la période 2019-2021, une étude comparative a été réalisée sur deux groupes de patients, le groupe A comprenait 12 patients et le groupe B recensait 15 patients. Toutes les patients ont subi des lombotomies pour diverses pathologies rénales à l'exception des processus septiques rétro-péritonéaux et ont été évalués postopératoirement de 6 mois à 2 ans. **Résultats.**

Du groupe A, 10 ont subi une lombotomie sous-costale et 2 intercostales. et seulement sous-costale aux patients du groupe B. La suture de la plaie pour le groupe B a été faite en couche par couche, fil continu avec drainage sous-cutané aux patients obèses. Dans le groupe A la fibrine et l'antibiotique topique Cefazolin ont été appliqués localement ayant la fréquence des phénomènes septiques locaux était de 5%, le taux d'éventrations était de 7%. Le groupe B présentait une suppuration dans 20 %, déhiscence 12 % et l'apparition d'une hernie 1 an après la chirurgie dans 18 % de cas. **Conclusions.** La fibrine et l'antibiotique topique se sont avérés efficaces et ont réduit le taux de hernie postopératoire de 11%.

## EPIDEMIOLOGY OF BIOPSY CONFIRMED GLOMERULONEPHRITIS IN THE REPUBLIC OF MOLDOVA

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### ABSTRACT

**Objectives.** Reporting the epidemiology of glomerulonephritis in the Republic of Moldova, based on histological diagnosis, and setting up the premises for the creation of the National Renal Biopsy Registry. **Methods.** The histological results of percutaneous renal ultrasound-guided biopsies, performed during the 30/03/2020-19/02/2023, were evaluated in the RCH "Timofei Moșneaga", Chisinau. Demographic characteristics, paraclinical parameters (serum creatinine, serum urea, glomerular filtration rate, nictemeral protein) and histological results were analyzed. **Results.** The outcomes of kidney biopsies performed on fifty-three patients were examined. The prevalence of renal pathologies in young and mature adults

was observed, with the average age being 46.2 years. Most of the examined patients were men (71.70%). The main indication for performing renal biopsy was nephrotic syndrome, present in 64.15% of patients. The dominant morphological variants of primary glomerulonephritis were membranous glomerulonephritis (50%) and membranoproliferative glomerulonephritis (20%). The most frequent types of secondary glomerulonephritis were lupus nephropathy (40%) and renal amyloidosis (30%). **Conclusions.** This study forms a first image of the current spectrum of glomerular kidney disease in the Republic of Moldova. It also serves as the basis for the creation of the National Renal Biopsy Registry, which can serve as a useful resource for health policy development.

## VASCULAR ACCESS STRUCTURE IN PATIENTS TREATED BY SCHEDULED HEMODIALYSIS

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### ABSTRACT

**Introduction.** The formation of a vascular access (VA) for hemodialysis (HD) and its long-term functionality remains a complex problem. Permanent central venous catheter (CVCp) is justified as the only chance for further dialysis treatment in such patients. Only 30-40% of CVCp remain functional after 1 year. **Aim of the study.** Were to evaluate the VA structure and to argument surgical tactics in the formation of permanent VA according to vascular reserves. **Material and methods.** In 2018-2022 in the Clinical Hospital "Timofei Moșneaga" were admitted 1275 patients with CKD st.V KDOQI, of which 547 (42.9%) for initiation of HD. Mean age  $57.87 \pm 2.43$  years. Primary pathology in 41.22% was diabetic nephropathy, hypertensive nephropathy-19.3%, diffuse chronic glomerulonephritis-14.04%, chronic pyelonephritis-9.64%, Alport syndrome-0.87%, polycystic kidney disease-3.5%. With Duplex

ultrasonography was determined vascular reserves necessary for formation VA. **Results.** For all the patients was performed Duplex ultrasonography, in 78%. 722 interventions were for native AVF formation, and 141 for CVC installation. Primary VA in 692(95.8%) cases; secondary VA-brachio-basilar FAV in 8(1.11%) cases, radio-basilar AVF 10(1.38%) cases. In 141 patients were installed in superior/inferior vena cava. In 109 cases (77.3%) CVCp insertion was right jugular vein. In 18(12.7%) in superior vena cava via left jugular vein. In 14 (9.94%) patients in inferior vena cava via common femoral vein. After 2-3 hemodialysis sessions were performed with finding of adequate functionality. **The data obtained in this study are as follows.** Taking a careful approach to VA formation by considering the type and order of intervention can produce maximum outcomes, leading to enhanced treatment and quality of life for dialysis patients.

## 44 YEARS OF TREATMENT EXPERIENCE OF ACUTE KIDNEY INJURY IN THE PMI «TIMOFEI MOSNEAGA» REPUBLICAN CLINICAL HOSPITAL

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### ABSTRACT

**Introduction.** Acute Kidney Injury (AKI) is a prevalent medical condition that is currently on the rise. This trend can be attributed to various factors such as social, economic, and medical, including the establishment of new intensive care units and hemodialysis, as well as the impact of the COVID-19 pandemic. AKI is a significant concern as it can lead to a decrease in life expectancy and an increased risk of developing or worsening Chronic Kidney Disease (CKD). **Material and Methods.** The study analyzed 44 years of AKI treatment experience at the Hemodialysis section of PMI «Timofei Moșneaga». The study group comprised of 1271 patients treated for AKI caused by various factors and was divided into two groups, with

each group comprising 22 years of data. **Results.** When comparing the two study groups, there was a significant increase in the number of patients in group 2, with a more than 2-fold increase observed (398 vs. 873 patients). Additionally, there was a significant increase in the average age of the patients in group 2 ( $30.4 \pm 2.2$  years vs.  $59.1 \pm 2.1$  years). At the same time, the study also showed a nearly double increase in the mortality rate for group 2 (22.9% vs. 43.4%). **Conclusions.** The study showed a significant increase in the number of patients with severe forms of AKI, including those requiring hospitalization in intensive care units, over the last two decades. This has contributed to an increased mortality rate in this patient population.

## THE DIAGNOSIS AND CONTEMPORARY TREATMENT OF BILIARY STRICTURES OF BENIGN GENESIS IN THE CONDITION OF A UNIVERSITY SURGICAL CENTER

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### ABSTRACT

**Introduction.** Biliary strictures of benign origin are a common problem in clinical practice. The diagnosis and treatment of these strictures are challenging and require a multidisciplinary approach. There are various causes of benign biliary strictures, such as iatrogenic (post-cholecystectomy), inflammatory (primary sclerosing cholangitis), or traumatic (blunt abdominal trauma). **Aim.** The aim of this study is to evaluate the contemporary diagnostic and treatment modalities of biliary strictures of benign origin at a university surgical center. **Material and methods.** The integral prospective and retrospective cohort study analyzed the long-term results of biliodigestive reconstructions in 203 patients who underwent the procedure between 1989 and 2015. The patients included in the study were monitored for 2-5 years, taking into account the local anatomic particularities at the time of reconstructive surgery, as well as the remote clinical-evolutionary particularities, using the clinical Terblanche score. **Results.** The majority of the patients (73.3%) were female, and the mean

age was 54.9 years. Individualized reconstructive surgical treatment was performed based on the level of biliary strictures, with a preference for biliodigestive derivations on jejunal loop a la Roux. Treatment for benign biliary strictures, classified according to Bismuth's classification, included choledoco-jejuno-stomy in 86 (42.4%) cases of type I and II strictures, hepaticojejunostomy in 102 (50.2%) patients with type III strictures, and bihepatico-jejuno-stomy in 15 (7.4%) cases of type IV strictures. Remote results were classified as very good in 123 (60.6±4.41%) cases, good in 39 (19.2±6.31%) cases, relatively satisfactory in 18 (8.9±6.91%) cases, and unsatisfactory in 23 (11.3±6.75%) cases, based on the clinical-evolutionary classification. **Conclusion.** Biliary strictures of benign origin remain a challenging condition for diagnosis and treatment. Hepaticojejunostomy on Roux loop is the preferred surgical option for biliary strictures. An analysis of remote results showed that reconstructive interventions were clinically effective in 88.67% of cases. The success rate of treatment is high, but complications may occur.