

## 154. CHEMICAL COMPOSITION OF THE RENAL CALCULI

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**Introduction.** Nephrolithiasis is a multifactorial pathology that ranks first among the urinary tract pathologies. The increased incidence of the urolithiasis is determined by multiple factors such as lifestyle, diet, migration of population from cooler rural areas to warmer urban areas. The method of surgical treatment of urolithiasis, previously applied, can also influence the risk of this disease, moreover the patients with reserved fragments of calculi in the kidneys have a higher risk of recurrence. Although the incidence of the pathology is very high, some patients can produce only a single stone in their lifetime. It's an important thing to know the regional peculiarities of the chemical composition of kidney stones to select the correct therapeutic strategy. The impact of the disease can be reduced by administering prophylactic treatment to patients with recurrent urolithiasis. Meanwhile in Republic of Moldova, there is no information about the peculiarities of the chemical composition of urinary calculi.

**Aim of the study.** The research of the chemical composition of calculi at the patients with recurrent urolithiasis in the Republic of Moldova.

**Materials and methods.** In this prevalence descriptive study 180 kidney calculi were analyzed by using the chemical modified method according to Hodgkinson and infrared Spectroscopy with Fourier transformant.

**Results.** Phosphate stones (calculi) have been identified in 37(20.55%) cases (calcium phosphate - 17(9.44%), struvites - 18(10%), brushitis - 2(1.11%) cases). Calcium oxalate calculi were found in 68(37.78%) cases; (whewellites - 44(24.44%); weddelites - 24(13.33%) were determined, being followed in frequency of uric acid - 48(26.67%). In 27(15%) cases calculi of mixed composition (whewellites+apatite carbonate - 8(4.44%), whitlockites+protein - 8(4.44%), whitlockites+weddelites - 4(2.22%) whewellites+uric acid - 7(3.9%) patients) were detected. Other calculi types were rarely found (2,8%).

**Conclusions.** Kidney calculi of calcium oxalate, uric acid and calcium oxalate and uric acid mixed calculi are the most frequently found in Moldova. The relative high incidence of infected calculi (30.8%) justifies the necessity of appropriate antibacterial therapy in the pre- and postoperative period. Correction of the lifestyle and the instruction of the patients using this information can substantially improve the results of the measures for primary prophylaxis and prevent the recurrence of urolithiasis. The obtained information about chemical composition of kidney stones, with the identification of specific risk factors for Moldova would be helpful for the healthcare professionals to plan preventive measures for reduce the high incidence of this disease.

**Key words:** chemical composition, recurrent urolithiasis, infrared Spectroscopy

## 155. CONTEMPORARY DIAGNOSTIC METHODS OF NEPHROLITHIASIS

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**Introduction.** Nephrolithiasis is ranked third in the urological diseases, since 2005 it has occupied the first place. A wide range of diagnostic methods available for renal lithiasis

evaluation create a well-founded basis for a positive and differential diagnosis of different forms of renal lithiasis. At the same time, the optimal application of the existing imaging arsenal, particularly under the conditions of achieving the maximum cost-benefit ratio, requires to specify the indications for the application of different diagnostic methods. Of particular importance is the determination of the factors causing diagnostic errors as well as the influence of the results of the imaging study on the selection of the concrete treatment method.

**Aim of the study.** To study the contemporary methods of diagnosis of patients with reno-ureteral calculi, their sensitivity, their indications and contraindications.

**Materials and methods.** The study was conducted in the Department of Urology and Surgical Nephrology, *Nicolae Testemitanu* State University of Medicine and Pharmacy, the Republican Clinical Hospital, on a group of 1719 patients with various forms of renal-ureteral lithiasis during 2016-2017.

**Results.** The results obtained show that KUB X-ray was performed in 1700 (98.89%) cases, intravenous urography - 1650 (95.98%), ultrasonography - 1719 (100%), computed tomography - 140 (8.14%) retrograde pyelography - 28 (1.62%), renography - 42 (2.44%), scintigraphy - 24 (1.39%). Unilateral calculi were found in 1420 (82.6%), out of which: in 673 patients (47.3%) they were located on the right side, while in 747 patients (52.7%) they were on the left side. Of 1719 patients enrolled in the study, 787 (45.78%) were males and 932 (54.22%) women. The study group included 367 (21.3%) patients aged 21-39 years, 1002 (58.3%) patients aged 40-59 years and 350 patients (20.4%) over 60 years.

**Conclusions.** The frequency of the disease, the clinical particularities, the possibility of complications, the difficulties that arise in the process of diagnosis and treatment emphasize the need to continuously study the problems related to urolithiasis. Also, imaging methods allow the visualization of calculi and nephrolithiasis complications. This contributes to the improvement of the practical implementation of the conduct algorithm in each individual case, effectively ensuring the medical act customization. The efficacy of each diagnostic method can be evaluated in terms of unanimously accepted sensitivity and specificity, being associated with concrete imaging signs specifically selected for the evaluation of renal lithiasis.

**Key words:** nephrolithiasis, contemporary diagnostic methods, ultrasonography

## 156. THE ROLE OF TAMSULOSIN ADMINISTRATION IN EVOLUTION OF STONE CLEARANCE AFTER SHOCK WAVE LITHOTRIPSY FOR URETERAL STONES

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**Introduction.** Management of symptomatic ureteric stones still represents the most common condition in urological practice. ESWL, a noninvasive technology, has become one of the main active interventions for ureteral stones; its success depends on stone size and location, and the type of lithotripter. Expulsion therapy of the stone requires ureteric peristalsis, tamsulosin must be the first as an adjunctive medical therapy after ESWL, is more effective for the treatment of patients with ureteral stones.

**Aim of the study.** To determine whether the administration of tamsulosin, as a medical therapy, increases the stone clearance after extracorporeal shock wave lithotripsy (ESWL).

**Materials and methods.** A total of 250 patients underwent a single ESWL session to treat ureteral stone up to 15 mm in diameter. After ESWL patients were randomized in two groups. Group A (control) – 125 patients were administered non-steroidal anti-inflammatory drugs. In group B, 125 patients additionally were prescribed tamsulosin 400 mg daily. Follow-up visits