



11. THE COMPARATIVE STUDY BETWEEN ENDOUROLOGICAL AND MINIMALLY INVASIVE TREATMENT OF RENO-URETERAL LITHIASIS

Author: Agache Marinela; **Co-author:** Corneliu Maximciuc

Scientific advisor: Pleșca Eduard, PhD, Professor, Department of Surgical Urology and Nephrology, *Nicolae Testemitanu* State University of Medicine and Pharmacy, Chisinau, Republic of Moldova

Introduction. Lithic urological obstruction is ranked 3rd among urological diseases worldwide, following renal infectious pathologies and prostate pathologies. At the national level, it is the most prevalent urological disease.

Aim of study. The aim of this study is to compare the benefits, efficacy, and potential complications of endourological and minimally invasive methods for treating reno-ureteral lithiasis.

Methods and materials. A retrospective descriptive study was conducted on a group of 148 patients with reno-ureteral lithiasis who were treated at the urology clinic of IMSP SCM "Sfânta Treime" between January 2023 and July 2023. The first study group included 59 patients (39.8%) who were treated with semi-rigid ureteroscopy. Of these, 37 patients had 1/3 middle ureteral lithiasis and 22 patients had lithiasis of the juxtavesical segment. The second group consisted of 89 patients (60.2%) with pyelocalyceal lithiasis who were treated with NLP (percutaneous nephrolithotomy). The study also utilized statistical methods, clinical and paraclinical examinations, including laboratory tests (complete blood count, urinalysis, blood biochemistry analysis, uroculture, coagulogram), as well as other instrumental investigations such as conventional imaging methods (SRVR, renal USG, IUR, retrograde ureteropyelography). In some cases, more complex imaging methods were used, such as abdominal CT, spectrometric analysis of the removed stones to evaluate the appropriate treatment approach for each patient.

Results. The criteria used to analyze the results of the study were the success rate, number of failures, type of anesthesia, time of stone removal, and complications and their management. The study included 148 patients (96 men and 52 women) between the ages of 19 and 78, with a median age of 46 ± 10.7 . In the first group, the "stone free" rate was 70%, with an intervention time of 25-40 minutes using local anesthesia and no associated complications. In the second group, the "stone free" rate was 87%. However, due to factors such as excess weight, volume and location of the kidney stones, and access to the stone, the intervention time was longer at 45 minutes to 1 hour and 30 minutes, with spinal or general anesthesia. There were also secondary complications, including 3 cases of exacerbation of chronic pyelonephritis and 7 cases of subcapsular renal hematomas. The patients with hematomas were closely monitored and did not require additional surgical intervention.

Conclusion. The most effective treatment for renal stones is NLP. Compared to semi-rigid ureteroscopy, NLP has a higher success rate in completely removing the stones due to its more precise targeting. With semi-rigid ureteroscopy, it can be challenging to capture all the fragmented stone pieces. Additionally, the use of a ureteroscope to access the stones through the urinary tract results in a quicker recovery time, lower complication rates, shorter hospital stays, and faster return to work for the patient compared to NLP treatment.