

The University of Medicine and Pharmacy Targu Mures
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THE RETROGRADE RIGID URETEROSCOPY IN TREATMENT OF URETHRAL CALCIFICATION POST EXTRA BODY LITHOTRITIES

PhD Thesis

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Key words: retrograde rigid ureteroscopy (URSR), balloon probe, extra body lithotrities (ESWL), urethral steinstrasse.

The hereby PhD thesis presents the efficiency of retrograde rigid ureteroscopy in the treatment of urethral calcification after performing the extra body lithotrities for renal calculi, and especially, the advantage of using balloon probes in preventing the ascendant migration of calculi component fragments. The study is a retrospective type one and was performed on the cases hospitalized in Urology Department of Deva County Hospital during 2005-2011.

The thesis presents in the beginning an introduction over the urinary lithiasis disease as an important urinary affection, being the third important pathology after the urinary tract infections and prostate pathology.

The first chapter refers to general notions regarding the etiopathology of renal calculi, urinary calculi types, physiopathology mechanism for their formation (formation of nucleus, their growth and aging, their aggregation and retention); there are presented notions of urethra anatomy, the current treatment in rhino-urethral lithiasis (ESWL, percutaneous nephrolithotomy, URSR and open surgeries), upon encroachment increase. An important part of this chapter refers to the extra body lithotrities (ESWL) - therapeutic principles, recommendations and complications. In particular, it is widely presented the complication exposed in the hereby thesis - urethral steinstrasse - semeiology, clinical and paraclinical examinations, detailed presentation of their clinical forms, differential diagnosis, evolution and current treatment.

The special part of the thesis presents the author's personal contribution. In the beginning is presented the purpose of the study, consisting in evaluation of retrograde rigid ureteroscopy efficiency in treating the post extra body lithotrities urethral calcification and especially the usefulness of balloon probes in stopping the calculi fragment movement during the procedure. Chapter two continues with presentation of the study group consisting in an initial bath of 144 patients who were hospitalized in Urology Department of Deva County Hospital with urethral steinstrasse, after ESWL procedure for renal calculi performed in the territorial centres. On these patients there were performed endoscopic interventions during their hospitalization. There is further presented the clinic and paraclinical examinations protocol. In the following pages are

presented the steinstrasse types within the own casuistry, the criteria of therapeutic recommendations, treatment principles, pre-surgery evaluation supported by some suggestive radiographies. Forward, it is presented the endoscopic surgeries room, the tools and devices used (rigid ureteroscopes, sonotrodes, ultrasounds generator, calculi tucks, guides, and balloon probes). It is also presented the anaesthesia types used in all the surgeries mentioned in the hereby study, the urethral valve approaching, the way the endo-urolologic surgery has developed - guide insertion, balloon probe attachment, the ureteroscopic approaching of the calculi fragments, auto static probe attachment. During the initial hospitalization, the insertion of auto-static probes has succeeded at first manoeuvre in fixing the urethral steinstrasse at 128 patients (88,88% of 144), 2 patients needed urethral valve meatotomy (1,38% of 144) and 14 patients needed retrograde rigid ureteroscopy with calculi fragments extraction (9,72%). The 128 initial patients came back for check-up and re-evaluation after 3 weeks and there had been determined the calculi fragments discharge at 32 patients (22,22% of 128), and the absence of discharge at 96 patients who needed a new hospitalization and retrograde rigid ureteroscopy procedure for fragments extraction.

Chapter three refers to the analysis of the batch of patients whereat was performed ureteroscopy, with the analysis upon sex and age. Altogether 110 patients needed retrograde rigid ureteroscopy. For illustrating the advantage of using balloon probe in preventing the migration of calculi fragments, this batch was split in two groups: one whereat during the ureteroscopy was not used balloon probe, consisting in 46 patients and the second one whereat there was used. Further there are presented the intra-surgery incidents and their solutions. A sub-chapter is reserved to data static processing.

Chapter four presents the study results, illustrating by tables and diagrams the advantage of using the balloon probe in preventing the calculi fragments movement during their endoscopic operation. The general success rate was 95, 3% in the group where balloon probe was used and 73, 9% in the other group where the probe was not used.

Chapter five presents topics related to the current literature approaching on the retrograde rigid ureteroscopy, the advantages of the several types of lithotripters, with a special reference to the ultra-sonic lithotrities used by the author in the hereby thesis. Also, there are analyzed the utility of attaching auto-static probes at the end of endoscopic procedures and also, the use of the urethra temporary obstruction devices by other authors during the retrograde ureteroscopy procedure (cone type probes, small balloons, NTrap type probes).

The final chapter consists in the 20 conclusions resulted from the thesis, regarding the advantage of retrograde rigid ureteroscopy in fixing the urethral steinstrasse and the advantage of using balloon probe in accomplishing the stone free objective at the end of endoscopic procedure above mentioned.

The thesis ends with the bibliography, 100 titles, that the author refers to during the study.