P006 Reducing infective complications in endoscopic stone treatment by avoiding pressure irrigation

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Antonucci M., De Dominicis M., Tema G., Defidio L.

Hospital Cristo Re, Dept. of Urology, Rome, Italy

Introduction & Objectives: Aim of the study is to demonstrate that standardization of “gravity irrigation” endoscopic technique, with the purpose of maintaining low intrarenal pressure during either ureteroscopy (URS) or retrograde intrarenal surgery (RIRS) for urinary stones, reduces ineffective complications rate.

Materials & Methods: A prospective study was performed on 126 consecutive patients undergoing RIRS or URS for stone disease in a tertiary center (Nov 2018 to Apr 2019). Key data were recorded using a standardized study proforma. Urinary colture (UC) was not routinely performed before surgery. When negative or not present the procedure was performed using ceftriaxone 2g as preoperative antibiotic prophylaxis (ABP), unless allergies. When positive UC the ABP started the night before operation with specific AB and procedure was performed, unless the patient presented signs of sepsis (in this case only urinary drainage was performed). For ureteral stones, pressure irrigation was avoided, using when necessary only minimum and intermittent gravity irrigation. If ureter was compliant, the safety guide-wire was replaced with a 5ch open-end ureteral catheter or UAS positioned below the stone, for irrigant outflow, allowing the operator to work with full gravity irrigation. For pyelocalyceal stones, UAS was positioned in order to allow correct irrigant outflow. Only gravity irrigation was used, but, in case of very low visibility also gentle and intermittent manual irrigation was used. Urosepsis was defined using the Third International Consensus Definition for Sepsis and Septic Shock. Logistic regression uni and multivariate assessed differences among patients with and without urosepsis, significant level was $p<0.05$.

Results: Patients characteristics showed in Table 1. 4.8% (6/126) Patients developed urosepsis with fever (>38°) and required prolonged AB administrations (2 vs 5 days) and prolonged hospitalizations (1 vs 4 days), no septic shock and no deaths were recorded. No differences were recorded in terms of comorbidities, stone location and length, presence of hydronephrosis, use of UAS and surgeon’s experience ($p>0.05$).

Conclusions: Avoiding pressure irrigation associated with standardization of endoscopic technique led to lower infective complication rates in our center compared to literature. It might be a useful tool for low experienced surgeons and residents in order to approach endourology minimizing severe complications risk.