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Retrograde intra renal surgery (RIRS) for renal stones

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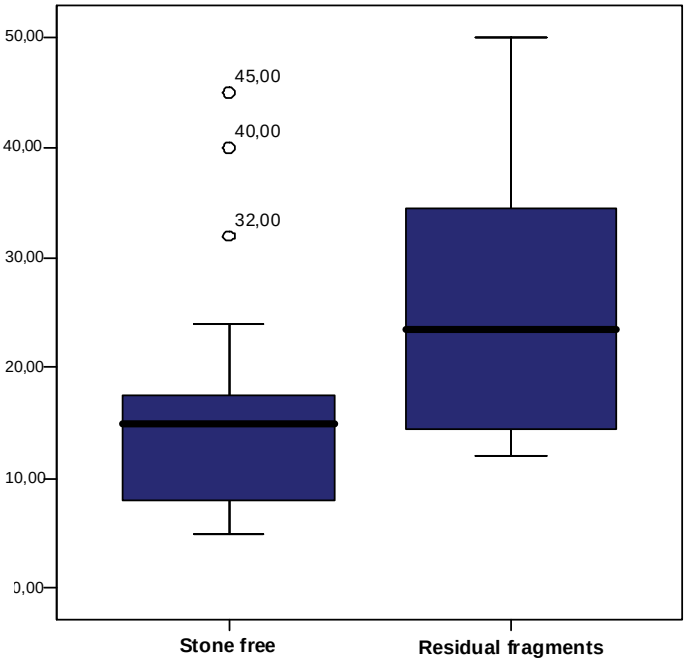
Objectives: To evaluate effectiveness and safety of RIRS, to assess its potential use as first line treatment of renal medium-sized stones (10-20mm), to set RIRS in the management of people prone to multi stone recurrences.

Materials and Methods: The prospective study considered 35 renal stone patients who underwent RIRS in our Department. The study analyzed localization, number and diameter of renal calculi using the conventional imaging methods and their composition. It analyzed the different surgical instrumentation necessary to a successful result, kind and length of the ureteral stenting, the number of hospitalization days and the intra and extra operative complications of the treatment.

Results: Stone free rate was achieved in 63% and 80% after single procedure and retreatment respectively. Single stone were treated more successfully (83%) than multiple stones (41%) ($p = 0.002$). RIRS results and stone dimension are related with statistic significance ($p = 0.004$) (Fig. 1): retrograde intrarenal surgery is able to dissolve with higher success renal calculi smaller than 20 mm. Seven % of treatments had post-operative complications. We did not find statistically significant differences in efficacy and safety between patients with renal stone relapse and patients with their first episode of calculi disease.

Discussion: RIRS is an effective and safe procedure to treat renal calculi. It may be considered as the first-line therapy to treat renal stones smaller than 20mm. It may be the first option to manage patients with multiple stone relapses. They are suggested to take an intensive follow up in order to diagnose and treat renal stones when they are still smaller than 20mm.

Figure 1. Stone size and results (p=0.004)



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