

## **Our Experience in Retrograde Intrarenal Surgery for Renal Stones**

**Introduction and Objective:** The aim of this study was to evaluate the efficacy and safety of retrograde intrarenal surgery (RIRS) for 15 to 25 mm renal calculi by evaluating stone-free rates and associated complications.

**Materials and Methods:** We retrospectively reviewed the records of 45 patients who underwent RIRS for renal stones from January 2008 to January 2012. Stone-free was defined as no stones or residual stones less than 3 mm. The stones were treated by RIRS with flexible or semi rigid ureteroscope. The energy used was holmium laser. The patients were discharged after 24 hours of the procedure and allowed to resume normal work after two days. X-ray KUB or ultrasound were done after three weeks from the procedure, and if any residual fragments were present in the patient, the stent was removed under local anesthesia. If there were residual fragments, the stent and residual fragments were removed with another procedure

**Results:** Complete clearance was considered if there were no fragments after three weeks. The stone-free rate in RIRS is 84.7% in the first sitting and 100% at second sitting. Twenty-one stones (%) were located in the upper pole or midpole or renal pelvis and 24 (%) in the lower pole. In the multivariate analysis, stone location except at the lower pole ( $p=0.049$ ) and small cumulative stone burden ( $p=0.002$ ) were significantly favorable predictive factors for the immediate postoperative stone-free rate. The overall complication rate was 5%.

**Conclusion:** RIRS is a safe and effective treatment for renal stones. The stone-free rate of RIRS was particularly high for renal stones with a small burden, except for those located in the lower pole.