Laparoscopic Pyelolithotomy: Indications and Technique

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Purpose: Laparoscopic pyelolithotomy, although uncommonly performed, may be considered in patients, who have a large single renal-pelvic calculus, have renal anomalies, and are poorly compliant. We present our experience with this procedure in five patients.

Patients and Methods: Five patients underwent laparoscopic pyelolithotomy for a large renal-pelvic calculus. Four cases were solitary pelvic (two of them having additional small calyceal stones) and one was staghorn with a mean size of 3.6 mm² (range 2.6-5.2 mm²). All were approached transperitoneally with dissection of renal pelvis like open surgery with v shaped incision stone extraction.

Results: All cases were completed laparoscopically. The length of surgery was 135, 112, 95, 92, and 76 minutes. There were no minor or major complications, and the estimated blood loss was <50 mL in all cases. All patients were discharged on postoperative day 3 with the drains removed. Two patients were stented (one with ureteric catheter which removed after 3 days, & one with JJ for 4 weeks). The remaining patient was not stented. Three patients were stone free on follow-up imaging, one patient with multiple calyceal stones & one with small residual fragment which treated by SWL third day post operative.

Conclusions: Laparoscopic pyelolithotomy can be done safely, effectively, and efficiently with proper patient selection and adherence to standard laparoscopic surgical principles.