



## Laparoscopic – assisted transpyelic rigid nephroscopy – simple alternative when flexible ureteroscopy is not available

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### ABSTRACT

*Introduction:* In special situations such as malrotated or ectopic kidneys and UPJ stenosis treatment of renal lithiasis can be challenging. In these rare cases laparoscopy can be indicated.

*Objective:* Describe the Laparoscopic-assisted rigid nephroscopy performed via transpyelic approach and report the feasibility.

*Patients and methods:* We present two cases of caliceal lithiasis. The first is a patient that ESWL and previous percutaneous lithotripsy have failed, with pelvic kidney where laparoscopic dissection of renal pelvis was carried out followed by nephroscopy utilizing the 30 Fr rigid nephroscope to remove the calculus. Ideal angle between the major axis of renal pelvis and the rigid nephroscope to allow success with this technique was 60-90 grades. In the second case, the kidney had a dilated infundibulum.

*Results:* The operative time was 180 minutes for both procedures. No significant blood loss or perioperative complications occurred. The bladder catheter was removed in the postoperative day 1 and Penrose drain on day 2 when patients were discharged. The convalescence was completed after 3 weeks. Patients were stone free without symptoms in one year of follow-up.

*Conclusions:* Laparoscopic-assisted rigid nephroscopy performed via transpyelic approach can be done safely with proper patient selection and adherence to standard laparoscopic surgical principles. This approach is an alternative in cases where flexible endoscope is not available and when standard procedure is unlikely to produce a stone-free status.

### ARTICLE INFO

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### CONFLICT OF INTEREST

None declared.

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**EDITORIAL COMMENT: LAPAROSCOPIC - ASSISTED TRANSPYELIC RIGID NEPHROSCOPY - SIMPLE ALTERNATIVE WHEN FLEXIBLE URETEROSCOPY IS NOT AVAILABLE**

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Percutaneous nephrolithotomy is generally considered the first choice for the treatment of large upper urinary tract stones. However, laparoscopic stone surgery with or without robotic assistance is a viable alternative especially in cases with aberrant anatomy such as ectopic or malrotated kidneys (1-3). A recent meta-analysis found several advantages of the laparoscopic approach, especially reduced blood loss, higher stone free rate and fewer secondary procedures (3).

Tobias-Machado et al (4) present a video on laparoscopic assisted rigid nephroscopy performed via a transpyelic approach for removal of stones in 2 cases with difficult anatomy. The authors are to be commended for their excellent surgical technique and description. However, using a rigid nephroscope would very rarely be necessary in most urologic centers in the US where flexible cystoscopes and ureteroscopes are nearly always available and preferred to avoid limitations due to angulation. When I have performed robotic pyelolithotomy (typically at concomitant robotic pyeloplasty), my preference has been to use a flexible cystoscope.

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