

Editorial Comment

With dramatic improvements in endoscope design and instrumentation have come expanded indications for endoscopic stone management such that large and complex renal calculi are increasingly managed ureteroscopically. However, the treatment of larger stones is associated with longer operative times and a greater potential for fluid absorption and/or bacteremia. A recent cadaveric study assessed renal pelvic and ureteral flow characteristics during flexible ureteroscopy either with or without a ureteral access sheath and determined that use of a ureteral access sheath was associated with low intrarenal pelvic pressures regardless of irrigation pressure used, and significantly lower pressures with ureteroscopy at all locations in the ureter compared with ureteroscopy using a bare ureteroscope (1).

Auge and colleagues validated the findings of this cadaveric study in a clinical study of 5 patients with nephrostomy tubes who underwent flexible ureteroscopy for management of obstructing ureteral calculi. Measuring renal pelvic pressures via the nephrostomy tube during ureteroscopy either without or with a ureteral access sheath yielded differences of 45 mm Hg, 48.1 mm Hg, 55.2 mm Hg and 53.8 mm Hg with the ureteroscope in the distal ureter, middle ureter, proximal ureter and renal pelvis, respectively. As such, use of a ureteral access sheath is more than just a mere convenience, facilitating retrieval of stone fragments or passage of the ureteroscope. Instead it provides a safety mechanism, particularly during lengthy procedures or when the occurrence of pyelovenous or pyelolymphatic backflow poses the greatest risk, such as during the treatment of urothelial tumors or potentially infected stones.

Reference

1. Rehman J, Monga M, Landman J, Lee DI, Felfela T, Conradie MC, Srinivas R, Sundaram CP, Clayman RV: Characterization of intrapelvic pressure during ureteropyeloscopy with ureteral access sheaths. *Urology*. 2003; 61: 713-8.

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ENDOUROLOGY & LAPAROSCOPY

Ureteropelvic junction obstruction: determining durability of endourological intervention

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Purpose: We evaluated the durability of endourological intervention for ureteropelvic junction obstruction and established guidelines for postoperative surveillance.

Materials and Methods: Since 1989, 150 patients have undergone endourological intervention for ureteropelvic junction obstruction, of whom 127 (53 men and 74 women) 13 to 79 years old (mean age 40.4) underwent postoperative evaluation at our center. These 127 patients are the study group reported. Endourological management consisted of hot wire balloon endopyelotomy in 25 patients, percutaneous endopyelotomy in 67 and ureteroscopic laser endopyelotomy in 35. Success in this study was strictly defined as symptomatic relief plus radiographic resolution on excretory urogram and/or diuretic renogram. Statistical analysis was performed to assess mean time to failure and develop Kaplan-Meier re-stenosis-free survival estimates.

Results: Followup was 1 to 128 months (mean 22). Time to failure was 0.9 to 32.4 months (mean \pm SD 10.3 ± 9.4). Kaplan-Meier estimates of time to re-stenosis (failure) were 6 months in 12% of patients, 12 in 22%, 18 in 24%, 24 in 27%, 30 in 32% and 36 in 37%. After 3 years no further failures were observed and Kaplan-Meier estimates remained unchanged.

Conclusions: The long-term probability of success, which is estimated to be 63.3% in this series, is somewhat lower than that reported in the literature. It likely is a result of longer followup and a more strict definition of success that includes functional and symptomatic relief. Our data suggest that while most failures become evident within the first 12 months, failure can develop as late as 3 years after intervention. As such, patients should be followed at least that long to ensure a durable result.

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Data such as this has been presented at meetings for a few years, and many in the academic community have started to lose favor for endopyelotomy and move towards laparoscopic pyeloplasty because of these findings. Although the mean time to failure was 10 months in this study, patients continued to fail up to 3 years post-operatively. A procedure with a 63% success rate long-term is just not a good choice for a young, active patient. On the basis of data such as this, I continue to offer endopyelotomy but encourage my patients towards pyeloplasty (if they are medically fit) because of my perception (although there are few data) that pyeloplasty will have better durability.

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A new technique for treating forgotten indwelling ureteral stents: silk loop assisted ureterorenoscopic lithotripsy

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Purpose: Treating forgotten indwelling ureteral stents is difficult because forgotten stents become encrusted and fragmented. Therefore, we developed a silk loop with which to loop the lower end of a forgotten ureteral stent during ureterorenoscopy to supply a counterforce, which fixed the stent while separating encrusted stones from the forgotten stent. We evaluated the success of the silk loop method.

Materials and Methods: Nine patients were enrolled in this study from 1997 to 2003. Each patient had a forgotten ureteral stent with renal stones on the tip of the proximal end. All consented to the procedure of silk loop assisted ureterorenoscopic lithotripsy (URSL) with a Lithoclast (Microvasive, Natick, Massachusetts) lithotripter.

Results: We successfully removed the forgotten indwelling stent from all 9 patients with the silk loop assisted URSL method.

Conclusions: Silk loop assisted URSL makes the removal of forgotten stents easier. While percutaneous nephrostolithotomy and open surgery produce successful results, the silk loop method is less invasive and expensive, and it minimizes hospital recovery time.

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Encrusted retained ureteral stents are a frustrating and difficult surgical challenge. Shock wave lithotripsy of the stent to loosen fragments, combined percutaneous and cystoscopic lithotripsy of the renal and bladder ends of the stent (which are usually the most encrusted), and open surgery have all been reported. The authors of this article demonstrate nicely that small caliber ureteroscopes can be used with great effectiveness to provide a less morbid, outpatient solution. The silk-loop retraction of the bladder end of the stent appears to be a great trick, as friction of the ureteroscope on the stent can sometimes be problematic as the ureteroscope is advanced up the ureter, and allowed use of a semi-rigid instrument with a pneumatic lithotrite. The next time you are faced with an encrusted ureteral stent, consider the ureteroscopic approach.

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IMAGING

Changing role of imaging-guided percutaneous biopsy of adrenal masses: evaluation of 50 adrenal biopsies

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Objective: Prior series of percutaneous imaging-guided biopsies of adrenal masses before the advent of dedicated CT and MRI of the adrenal glands have shown that 40-57% of adrenal masses biopsied were adenomas-benign lesions requiring no further evaluation or treatment. This study was performed to assess the effect of dedicated adrenal imaging with CT and MRI on the rate of percutaneous imaging-guided biopsies of adrenal masses.

Materials and Methods: We reviewed 50 consecutive adrenal mass biopsies performed during a 48-month period. The patient demographics, technique of biopsy, pathology results, and results of any prior dedicated adrenal imaging with MRI or CT protocols were noted.

Results: Only six (12%) of 50 biopsies were adenomas. Five of these six cases were preceded by dedicated adrenal CT or MRI. Thirty-five cases were metastatic disease, four were adrenal cortical carcinoma, three were pheochromocytoma, and two biopsies were nondiagnostic. Overall, 20 of 50 cases were preceded by a dedicated adrenal CT or MRI examination to exclude an adenoma; in 21 of the remaining 30 cases, the imaging characteristics before biopsy were inconsistent with the potential diagnosis of an adenoma and dedicated adrenal CT or MRI was not recommended.

Conclusion: The number of adrenal adenomas biopsied has declined markedly with the introduction of dedicated adrenal CT and MRI for adrenal adenomas. Percutaneous imaging-guided biopsy is useful in confirming the presence and nature of suspected metastatic deposits to the adrenal gland and in diagnosing or excluding adrenal adenomas in patients with equivocal imaging characteristics.

Editorial Comment

Most incidentally found adrenal masses are adenomas even in patients with known primary tumors. For this reason a well established radiologic work-up is currently used in this clinical setting. By using a dedicated