

Endoscopic management of urine leaks after partial nephrectomy with ureteroscopic retrograde fibrin sealant.

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Abstract:

INTRODUCTION AND OBJECTIVES: Urine leak is a known complication of partial nephrectomy with a reported incidence of 3-6%. Especially when the leak fails to resolve with traditional methods of drainage such as ureteral stent placement, patients are often subjected to significant morbidity. Long term failures may be managed by nephrectomy. We present 3 cases of prolonged urine leak after partial nephrectomy managed with ureteroscopic injection of fibrin glue. This series confirms that the use of fibrin sealant is a viable option in the treatment algorithm for urine leak after partial nephrectomy. **METHODS:** This is a case series of 3 patients that developed urinary fistulae after partial nephrectomy between 2007 and 2013. Each patient had prolonged urine leakage (> 3 months) following either open or robotic partial nephrectomy that had failed to resolve with ureteral stent placement and bladder drainage using either a suprapubic or Foley catheter. Each patient underwent ureteroscopy with laser ablation or fulguration of the fistula tract using the holmium laser or a Bugbee, followed by retrograde injection of fibrin sealant into the tract through two side-by-side 5 Fr open-ended ureteral catheters. **RESULTS:** Three patients (mean age 67, range 64-70 years) underwent retrograde ureteroscopic ablation of their fistula tract followed by instillation of fibrin sealant by the same surgeon at a tertiary-care center. All patients also underwent placement of a retroperitoneal drain in the same setting or pre-operatively. A ureteral stent was also left in place. Initial success was achieved in 67% of the cases (2/3 patients) as determined by cessation of drainage from percutaneous drains and post-operative cross-sectional imaging at 4-8 weeks. One patient subsequently required combined open renal exploration, ureteroscopy, and closure of his

fistula with success. All three patients had their kidneys saved. CONCLUSIONS: Retrograde ureteroscopic ablation and injection of fibrin sealant can be a viable technique for the management of post-operative urinary fistula after partial nephrectomy. Larger series are needed to refine this technique and to determine long-term durability and success.