

A Case of Upper Ureter Rupture With Acute Kidney Injury

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ABSTRACT: We herein report a case of ureter rupture with severe oliguric acute renal injury due to benign prostatic hypertrophy. After insertion of an indwelling urinary catheter, the patient's urine output immediately increased. His symptoms and renal function also rapidly improved to the normal range without a surgical operation. Clinicians should note this complication in patients with oliguria.

KEYWORDS: Ureter rupture, acute kidney injury, oliguria

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Image of Interest

Several cases of nontraumatic ureter rupture have been reported.^{1–5} Ureteral calculi and abdominal or pelvic tumors reportedly cause nontraumatic ureter rupture by increasing the ureter lumen pressure beyond its capacity due to urine flow obstruction.^{1–5} However, few cases of ureter rupture with severe oliguric acute renal injury have been described. We herein report a case of ureter rupture with severe oliguric acute renal injury due to benign prostatic hypertrophy. A 76-year-old man without renal impairment was admitted to our emergency department due to oliguria and back pain. Blood tests showed severe renal dysfunction (creatinine, 19.6 mg/dL; blood urea nitrogen, 148 mg/dL) and hyperkalemia (8.3 mEq/L). He had no external trauma and no history of ureteric instrumentation during the previous 3 weeks or surgery on the kidneys or upper ureters. Computed tomography revealed urinary extravasation in the left perinephric space (Figure 1A, arrow) with bilateral hydronephrosis (Figures 1A, 2), marked bladder dilation with urine, and benign prostatic hypertrophy (Figure 2, arrow). No external compression or stones were detected in the bilateral kidneys and ureters. No pelvic tumor or lymphadenopathy was present. These findings led to a diagnosis of left ureter rupture with oliguric acute renal injury due to benign prostatic hypertrophy. The patient underwent insertion of an indwelling urinary catheter and administration of intravenous antibiotics. His urine output immediately increased after urinary catheter insertion. His symptoms and renal function also rapidly improved to the normal range. Follow-up computed tomography after 2 weeks showed improvement of urinary extravasation and bilateral hydronephrosis (Figure 1B). There are several debates regarding a surgical procedure versus nonsurgical supportive treatment as the initial treatment for ureter rupture.^{2–5} In this case, both the ureter rupture and hydronephrosis were improved with nonsurgical treatment. Further studies are required to investigate the

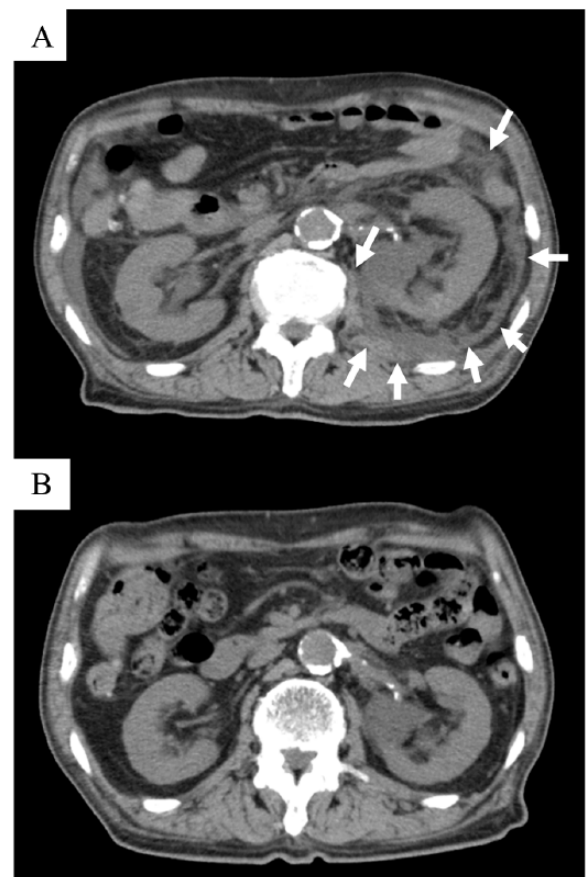


Figure 1. Transverse plane of abdominal and pelvic computed tomography images (A) on admission and (B) 2 weeks after admission.

optimal treatment for ureter rupture. In conclusion, we have reported a case of ureter rupture with severe oliguric acute renal injury due to benign prostatic hypertrophy. Clinicians should note this complication in patients with oliguria.





Figure 2. Coronal plane of abdominal and pelvic computed tomography images on admission.

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Author Contributions

All authors contributed to data analysis, drafting and revising the paper.

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