The Mystery of Ureteral Rupture!

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Learning Objectives

- To describe a rare case of spontaneous ureteral rupture.
- To identify different causes of ureteral rupture.

Case

85-year-old lady with past medical history significant for hypertension, hyperlipidemia, and stroke, presented to emergency room (ER) due to abdominal pain, dysuria and nausea for one day.

Patient denied any history of trauma.

Physical examination remarkable for diffuse abdominal tenderness.

Initial vitals were unremarkable except for hypothermia (95.9°F).

Laboratory data remarkable for leukocytosis and urine analysis consistent with pyuria.

Computed tomography (CT) of abdomen and pelvis revealed proximal ureteral and ureteropelvic junction rupture with fluid within the left retroperitoneum and pelvis.

These findings as per CT report could be chronic obstruction due to mass or stricture. However, no stone or mass was identified on the imaging.

Patient was admitted to intensive care unit (ICU) and started on broad spectrum antibiotics.

Urology services evaluated the patient and recommended to left percutaneous nephrostomy tube placement which was done by interventional radiology (IR).

While in ICU, patient developed supraventricular tachycardia considered to be secondary to sepsis and resolved with metoprolol.

Later, urine cultures grew *Escherichia coli (E. coli)* and antibiotics were adjusted according to sensitivities.

Urology followed up and recommended to discharge patient with nephroureteral catheter with reevaluation in 3 weeks to assess for removal of nephrostomy tube.

Discussion

- “Spontaneous ureteral rupture is extremely rare and the etiology is usually calculus causing ureteral obstruction.”

Our patient presented with rupture of ureter, however, source remained elusive.

CT with intravenous (IV) contrast is the choice of study to diagnose ureteral ruptures which was done and assisted with diagnosis in the case of our patient.

Urologist were unsure as to exact etiology.

One possibility could be chronic stricture.

CT was obtained with contrast, which often can not detect nephrolithiasis, but our patient did not have hydronephrosis either, nor was there any evidence of mass to suggest obstruction.

With regards to ureteral ruptures, “there are only theoretical mechanisms suggested but no explanation yet reported in literature.”

Treatment involves percutaneous drainage and possibly antibiotics.

“Minimally invasive endourological procedures with double-J catheter placement and percutaneous drainage offer excellent results.”

Our patient responded well to antibiotics and clinically improved with in 2-3 days of treatment.

References