

The Mystery of Ureteral Rupture!

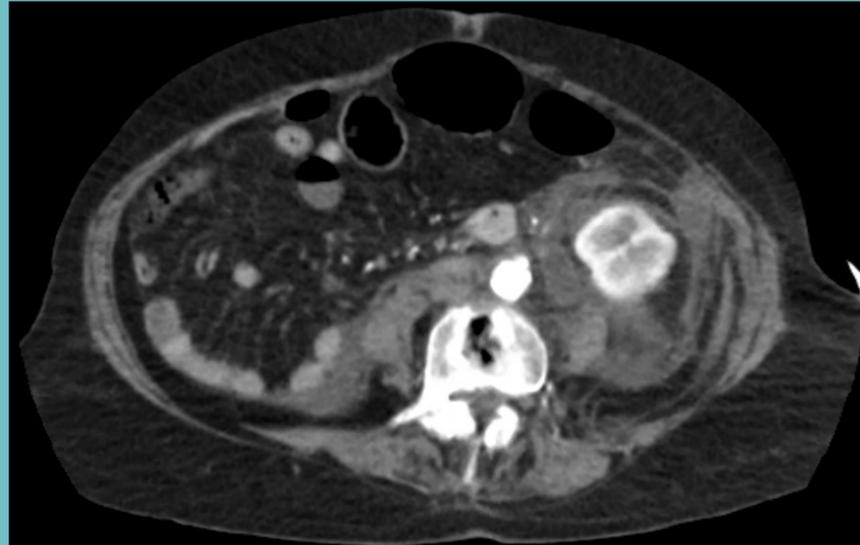
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Learning Objectives

- ❖ 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.



Arterial phase



Delayed image

Discussion

- ❖ “Spontaneous ureteral rupture is extremely rare and the etiology is usually calculus causing ureteral obstruction.”¹
- ❖ 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.”¹
- ❖ Treatment involves percutaneous drainage and possibly antibiotics.
- ❖ “Minimally invasive endourological procedures with double-J catheter placement and percutaneous drainage offer excellent results.”¹
- ❖ Our patient responded well to antibiotics and clinically improved with in 2-3 days of treatment.

References

1. Alper Eken, Tugana Akbas, and Taner Arpaci, MD. *Spontaneous rupture of the ureter*. Singapore Med J 2015 Feb; 56(2): e29–e31. doi: 10.11622/smedj.2015029