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Giant Hydronephrosis

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CASE

A 83-year-old man with a history of urinary stone disease presented to the emergency department with abdominal and right-sided flank pain. Examination demonstrated distended abdomen and right costovertebral angle tenderness. Vital signs were unremarkable, and laboratory evaluation showed a blood urea nitrogen level of 34.5 mg/dL and creatinine of 1.45 mg/dL. Urinalysis showed red blood cell count: 37/high power field (HPF); white blood cell count: 4/HPF; yeast cells: 4/HPF. Abdominal ultrasonography revealed a large cystic mass localized in the right side of the abdomen. Subsequent computed tomography (CT) of the abdomen and pelvis were also obtained (Figure).

DIAGNOSIS

Subsequent CT showed giant right-sided giant hydronephrosis and hydroureter with thinning of renal parenchyma due to obstruction by a ureteral stone. Patient consulted with department of urology and a percutaneous nephrostomy tube was placed. Approximately 4000 mL of urine was drained.

Symptomatic nephrolithiasis and hydronephrosis are frequently presenting clinical conditions, but giant hydronephrosis is an uncommon entity and a rare cause of

urological emergencies. Giant hydronephrosis is defined as the presence of over 1000 mL of fluid within the adult renal collecting system. The most common cause of giant hydronephrosis is ureteropelvic junction obstruction, although stone disease, trauma, renal ectopy, and ureteral tumor have also been reported.¹ Emergency physicians should be aware of this clinical presentation, especially in patients with urinary stone disease. A high index of suspicion and prompt management should avoid adverse outcomes.

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1. Grover CA, Crisp JG. Giant hydronephrosis presenting as an acute abdomen. *J Emerg Med.* 2012;43(5):e307-10.



Figure. Computed tomography of abdomen showed right ureteral stone (white arrow) in a axial view (A), right giant hydronephrosis in a coronal (B) and sagittal (C) views. Abbreviation: H, hydronephrosis