

Psoas abscess from ureteric stone perforation

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LANGILLE GM, NORMAN RW. Psoas abscess from ureteric stone perforation. *The Canadian Journal of Urology*. 2010;17(5):5408-5410.

This case illustrates a rare complication of an impacted ureteric stone which eroded through the wall of the ureter leading to formation of a psoas abscess. Ureteric stent

placement and percutaneous drainage of the abscess were insufficient to resolve the problem. Renal scan revealed poor function and the left kidney was removed. It showed evidence of acute suppurative pyelonephritis with nephrolithiasis.

Key Words: psoas abscess, ureteric stones

Introduction

Psoas abscess is an uncommon entity often associated with the triad of fever, back pain and limp. Early non-specific symptoms of malaise, nausea, and weight loss may present a diagnostic challenge.¹ The widespread availability of computed tomography (CT) has facilitated accurate definition of the underlying problem. Historically, tuberculosis was the most common etiology of psoas abscess and this remains true in Africa and Asia.¹ Elsewhere, psoas abscess occurs more frequently through secondary seeding from adjacent areas of inflammation such as appendicitis, diverticulitis and Crohn's disease.² Primary hematological spread from distant infectious sites is also possible with intravenous drug use cited as a major source.³ Urological entities are an exceedingly rare cause of psoas abscess. We report a case of a psoas abscess originating from a perforated ureter secondary to an impacted ureteric stone.

Accepted for publication August 2010

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Case report

A healthy 81-year-old female described a 2 month history of progressive left sided flank pain and a worsening limp. She eventually presented with a temperature and intolerable pain to the emergency department. On examination she had tenderness in the left side of her abdomen and pain on external rotation and extension of her left hip. CT scan of the abdomen revealed a 7 mm stone 1 cm below the left ureteropelvic junction. An inflammatory mass in the left psoas muscle was contiguous with the left ureteric stone, Figure 1. A retrograde pyelogram showed extravasation at the site of stone, Figure 2. Ureteric stent was positioned into the renal pelvis and the patient was treated with intravenous antibiotics. She had persistent fevers and discomfort. Repeat CT scan 48 hours later revealed extravasation of residual contrast from the retrograde in the psoas abscess and new loculations of gas, Figure 3. The collection was drained percutaneously using CT guidance and a drain left indwelling. She improved and was discharged.

She continued to feel systemically weak and had ongoing discomfort with movement of her left hip.



Figure 1. Proximal left ureteric stone disease contiguous with left psoas abscess.



Figure 2. Retrograde pyelogram showing extravasation at the site of the left ureteric stone.

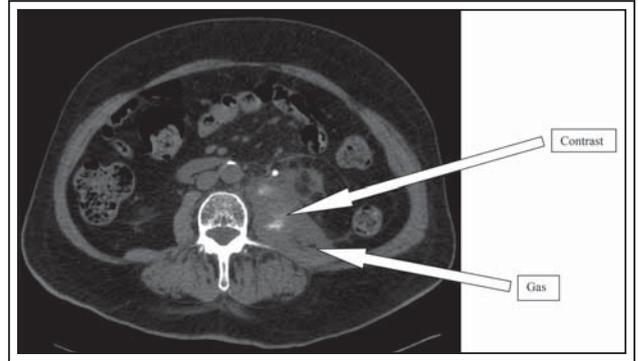


Figure 3. CT scan showing residual contrast from retrograde pyelogram and loculated gas in left psoas abscess.

Eight weeks later she was brought back for removal of the left ureteric stent and performance of a retrograde pyelogram which showed a persistent ureteric leak, Figure 4. Differential renal function scan confirmed that the left kidney contributed < 10% to overall renal function and it was removed. The patient recovered completely.

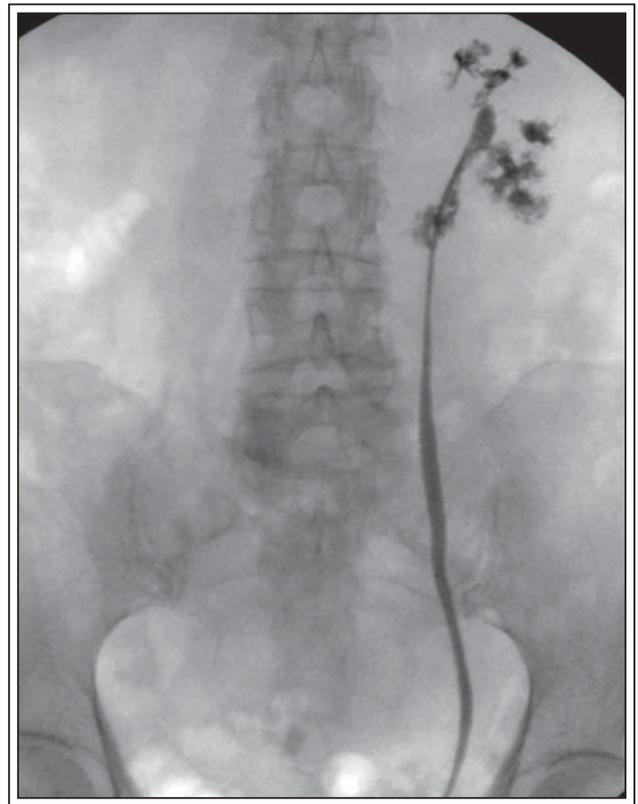


Figure 4. Retrograde pyelogram 8 weeks following presentation showing persistent left ureteric leak with extravasation of contrast.

Discussion

Spontaneous perforation of the ureter secondary to ureteric stone disease leading to psoas abscess is rare. A 64-year-old woman presented with a 6 mm stone in the proximal left ureter and had an abdominal CT showing extravasation of contrast medium. Percutaneous nephrostomy and drainage of perirenal fluid was done and she recovered.⁴ A 59-year-old man had a stone in the proximal right ureter in association with gas in the collecting system and retroperitoneal space. He was managed with CT-guided drainage of the collection and placement of a nephrostomy tube. The leak was healed 1 month later.⁴ A pyogenic psoas abscess secondary to an impacted calcium oxalate ureteric stone in a 2-year-old boy with glycogen storage disease type required drainage of the abscess through a flank incision followed by percutaneous nephrostomy and open ureterolithotomy.⁵

Two other reports occurred following extracorporeal shock wave lithotripsy (ESWL). A patient with a solitary renal pelvis calculus who had ESWL developed psoas spasm and became unwell. Psoas abscess extending from renal hilum to the groin was diagnosed and drained surgically.⁶ A ureteric stone with right hydronephrosis was treated by ESWL but persistent high fever continued. Abdominal CT and magnetic resonance imaging revealed a mass in the retroperitoneal space. It was drained percutaneously.⁷

Ureteric stone disease in combination with difficulty moving or pain in the ipsilateral hip should raise the early suspicion of psoas abscess. CT scanning will confirm the diagnosis. Early antibiotics and percutaneous drainage are appropriate but may not be sufficient. Open surgical intervention should be considered if there is not a prompt and complete response to the percutaneous drainage. □

5. Nazir Z, Qazi SH. Urolithiasis and psoas abscess in a 2-year-old boy with type 1 glycogen storage disease. *Pediatr Nephrol* 2006; 21(11):1772-1775.
6. Qureshi F, Thompson PM. Psoas abscess following extracorporeal shock wave lithotripsy. *Scand J Urol Nephrol* 1998;32(3):237-238.
7. Komori K, Yamamoto K, Momohara C, Takada T, Honda M, Fujioka H. A case of psoas abscess with ureteral stone. *Hinyokika Kyo* 2003;49(1):25-27.

References

1. Mallick IH, Thoufeeq MH, Rajendran TP. Iliopsoas abscesses. *Postgrad Med J* 2004;80(946):459-462.
2. Bartolo DC, Ebbs SR, Cooper MJ. Psoas abscess in Bristol: a 10-year review. *Int J Colorectal Dis* 1987;2(2):72-76.
3. Yacoub WN, Sohn HJ, Chan S et al. Psoas abscess rarely requires surgical intervention. *Am J Surg* 2008;196(2):223-227.
4. Lin DY, Fang YC, Huang DY, Lin SP. Spontaneous rupture of the ureter secondary to urolithiasis and extravasation of calyceal fornix due to acute urinary bladder distension: four case reports. *Chin J Radiol* 2004;29:269-275.