Moans, groans and renal stones: an interesting case of abdominal pain

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DESCRIPTION

A 71-year-old man attended A&E reporting swelling in his left flank, which increased during the 6 weeks prior to admission. Concomitantly, he had experienced persistent fevers and 13 kg weight loss. His medical history included a myocardial infarction and 4 months prior to admission, a transurethral resection of the prostate. The patient denied being diabetic and any history of recent travel.

Abdominal examination revealed a 5 cm×5 cm painful, fluctuant subcutaneous mass. The left kidney was not palpable. Interestingly, the pain was exacerbated by left hip flexion. Cardiovascular examination revealed the patient to be warm peripherally, tachycardic and to have a flash capillary refill. All other examinations were normal.

On admission, blood tests demonstrated a white cell count of $20.0 \times 10^9/L$ and C reactive protein of 155 mg/L. The patient was anaemic (haemoglobin 10.5 g/dL). Renal function was normal. Urine dip was negative, with microscopy, culture and sensitivity revealing moderate white cell numbers but no significant growth. He proceeded to an ultrasound of the abdomen and subsequent CT of the abdomen/pelvis, which identified a complex of loculated collections originating from the mid pole of the left kidney (figure 1) to the left psoas muscle (figure 2a) and to the left flank subcutaneous tissues (figure 2b).

A percutaneous drain was placed, from which puss drained; culture and sensitivities grew *Proteus mirabilis*.

The differential diagnosis included chronic pyelonephritis and xanthogranulomatous pyelonephritis

Figure 1 Axial CT demonstrates a 6 mm renal calculi, and renal and posterior perinephric abscess, illustrated by the absence of a clearly defined posterior kidney edge.

Figure 2 (A, B) The coronal CT images (and axial image in figure 1) demonstrate loculated collections: the renal component measured 3.8 cm×3.6 cm×4.6 cm, the psoas component 17 cm×6 cm×4.6 cm and the subcutaneous component 4.1 cm×5.8 cm×6.6 cm. Two renal calculi were identified: a 7 mm stone in the epicentre of the renal collection and a 6 mm calculus in the posterior calyx of the renal upper pole (figure 1).

(XNP). The latter is a rare inflammatory disorder characterised by diffuse renal destruction as the parenchyma is replaced by lipid-laden macrophages.^{1 2} XNP commonly presents in middle age, being strongly associated with *P mirabilis* and renal stones.¹⁻³ Antibiotics and drainage lead to better mortality outcomes.²

Although on this admission XPN was not conclusively diagnosed, the patient was worked up for ureteroscopy, potential percutaneous extraction of the renal calculi or nephrectomy.

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Learning points

- ▶ It is important to acquire a detailed history and clinical examination; the chronic history of symptoms not only identifies complications of commonly presenting conditions, for example, urinary tract infections and chronic pyelonephritis, but also enables recognition of conditions (eg, xanthogranulomatous pyelonephritis (XPN)) which mimic other pathologies.
- ▶ XPN has no specific ultrasonographic features; however, parenchymal thinning, hydronephrosis, chronic obstructive uropathy due to calculi, and perinephric collections are suggestive.
- ▶ In XPN, CT demonstrates renomegaly±calculus and multiple non-enhancing areas due to dilated calyces and abscess cavities, which enhance in chronic pyelonephritis and tumours.

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