

Xanthogranulomatous Pyelonephritis Presenting as Bilateral Enlarged Kidneys

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Abstract

A 63-year-old male presented with acute gross hematuria, dysuria, and mild left-sided flank pain. Examination revealed asymmetrically distended flanks with two palpable masses. Investigations were notable for acute kidney injury and *Proteus mirabilis* bacteria in the urine.

Résumé

Un homme de 63 ans présente une hématurie macroscopique aiguë, une dysurie et une légère douleur au flanc gauche. L'examen physique révèle des flancs asymétriquement distendus avec deux masses palpables. Les examens ont révélé une lésion rénale aiguë et la présence de la bactérie *Proteus mirabilis* dans les urines.

Keywords: *Proteus mirabilis* urinary tract infection; nephrology; urology; Xanthogranulomatous pyelonephritis

A 63-year-old male presented with acute gross hematuria, dysuria, and mild left-sided flank pain. Examination revealed asymmetrically distended flanks with two palpable masses. Investigations were notable for acute kidney injury and *Proteus mirabilis* bacteria in the urine. Computed tomography (CT) without contrast demonstrated nephromegaly, with the left kidney larger than the right one (longitudinal axes 31 cm and 23 cm, respectively). A hemorrhagic left renal cyst was noted bleeding into the left pelvic caliceal system with associated severe hydronephrosis. There was mild right kidney hydronephrosis. There were no distinct masses or characteristics of polycystic kidney disease.

Magnetic resonance imaging (MRI) established diffused infiltrative process of both kidneys. A left renal biopsy predominantly depicted histological changes of the fibromyxoid stroma with mixed inflammation. No evidence of malignancy was observed.

Given the subacute course, *Proteus mirabilis* urinary tract infection (UTI), nephromegalies, and pathological findings, xanthogranulomatous pyelonephritis (XPN) was the favored diagnosis. Urology and nephrology specialists opined that nephrectomy should not be pursued, given the UTI was treated without relapse and reasonable renal function was preserved.

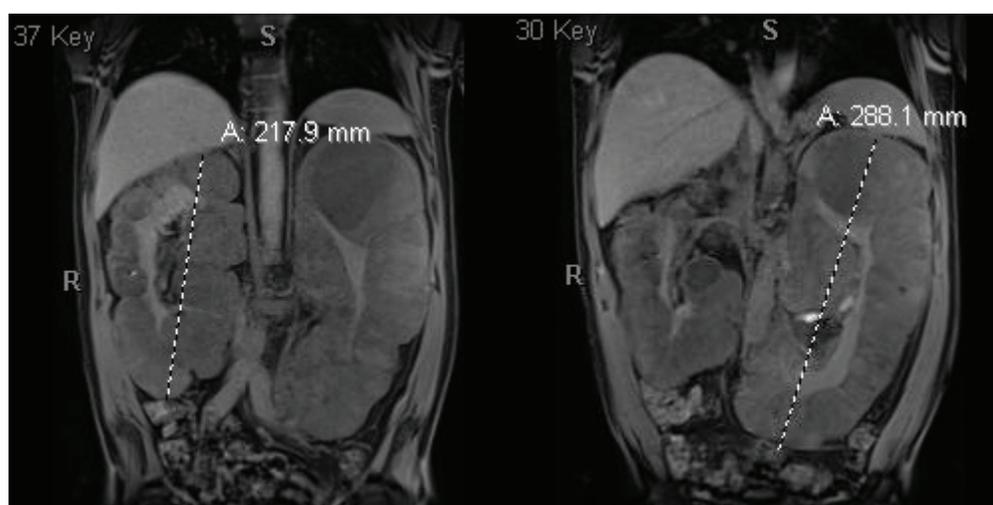


Figure 1. T2-weighted magnetic resonance imaging demonstrating the bilaterally enlarged kidneys with diffused infiltration at the greatest longitudinal diameters.

Xanthogranulomatous pyelonephritis is an uncommon variant of chronic pyelonephritis.¹ Typical epidemiological profile includes middle-aged females with recurrent UTI presenting with anorexia, weight loss, fever, and flank pain.¹ A palpable unilateral renal mass is a common physical finding.¹ Blood tests are nonspecific and urine culture often produces Enterobacteriaceae, Gram-negative bacteria.² The diagnosis of XPN is confirmed by imaging and pathology.³ CT scan reveals renal tissue replaced by rounded low-density areas that are surrounded by an enhanced rim corresponding to dilated calyces with a border of necrotic xanthomatous tissue.³ It is most frequently confused with renal carcinoma.

Xanthogranulomatous pyelonephritis is commonly unilateral and is associated with complete destruction of the kidney.² Following an initial antimicrobial course to control local infection, complete nephrectomy is considered.¹ Patients with bilateral disease can be treated with partial nephrectomy, depending on the extent of the lesions.¹

Competing Interests

None declared.

This article has been peer-reviewed.

The authors obtained consent of the patient.

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