

*Images in Nephrology*  
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## Kidney packed with fat, pus and stone-xanthogranulomatous pyelonephritis

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A 60-year-old woman presented with intermittent low-grade fever and chills for 1 month accompanied by right flank soreness, poor appetite and marked body weight loss (12 kg within 1 month). Leukocytosis (WBC =  $17.75 \times 10^9/l$ ), normocytic anaemia (haemoglobin 6.6 g/dl) and pyuria were noted. Abdominal computed tomography (CT) showed an enlarged right kidney with dilated collecting system filled with hypodense substance (pus) and staghorn stones, which are typical CT findings for xanthogranulomatous pyelonephritis (Figure 1A). She received CT-guided drainage immediately, and total amount of 300 ml brown-bloody pus was drained out. However, serial urine and pus cultures did not yield any pathogen. After a

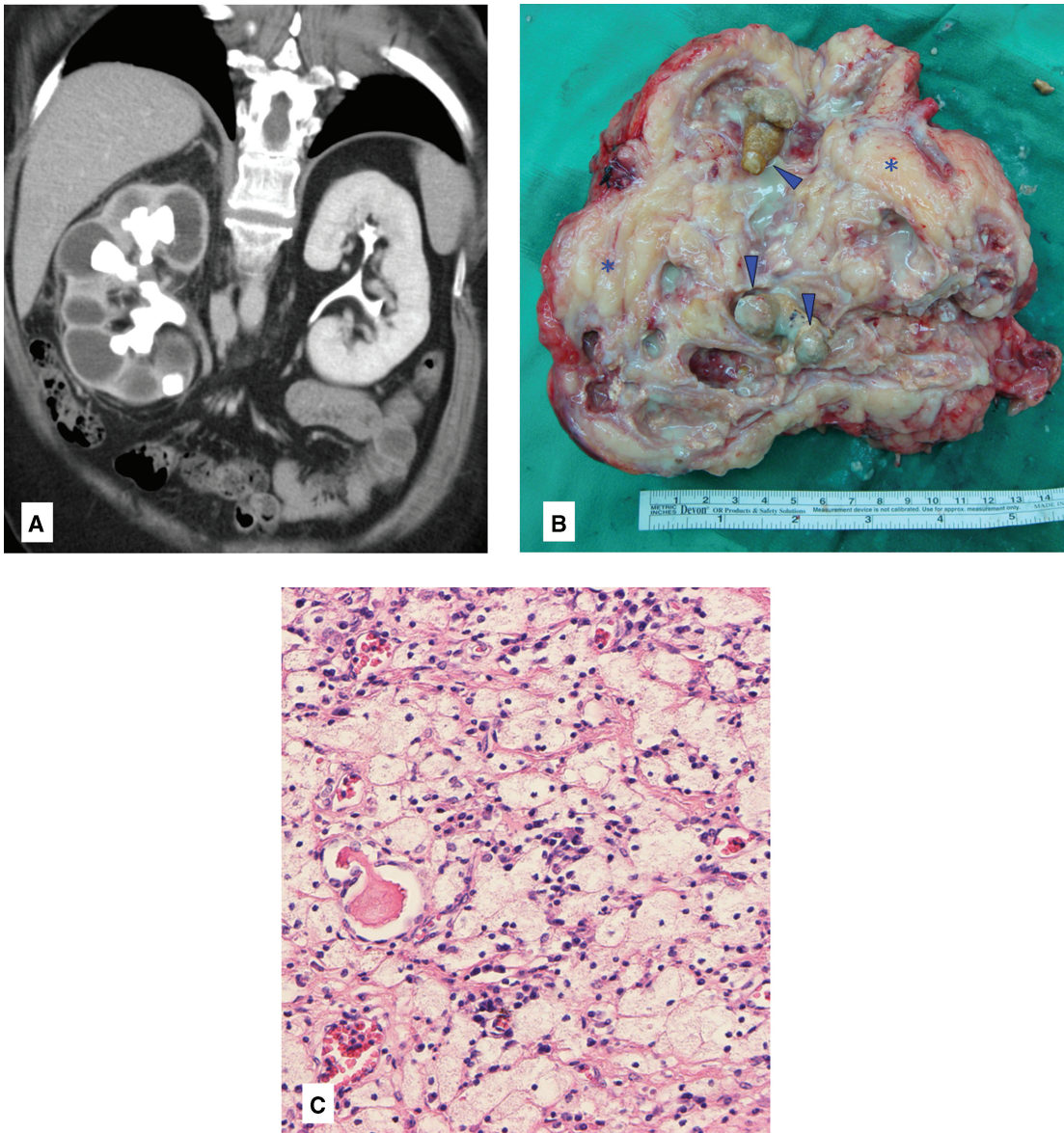
4-week antibiotic therapy, she underwent right nephrectomy (Figure 1B). Microscopic examination disclosed that renal parenchyma was replaced by lipid-laden macrophage (Figure 1C), which is a typical feature of xanthogranulomatous pyelonephritis.

Xanthogranulomatous pyelonephritis is a variant of chronic pyelonephritis characterized by the destruction of the renal parenchyma and the presence of granulomas, abscesses and foam cells. Most of the cases occur in the presence of chronic obstruction due to renal calculi. It is usually a unilateral disease and more frequently affects middle-aged women. The most common associated pathogens are *Escherichia coli* and *Proteus mirabilis*. Treatment of choice is nephrectomy that yields excellent outcome as this patient.

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**Fig. 1.** (A) Contrast-enhanced abdomen CT showed an enlarged nonfunctioning right kidney and staghorn calculi, with distention of the collecting system. (B) The coronal section of the right kidney revealed that the dilating collecting system was filled with pus and surrounded by yellowish fatty tissue (\*) corresponding to the xanthogranulomatous inflammation (tissue infiltrated by lipid-laden macrophage). Staghorn stones were clearly demonstrated (arrowheads). (C) Renal parenchyma was replaced by lipid-laden macrophage.