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Figure 1. Left flank mass.



Figure 2. Intravenous contrast-enhanced image of the extensive xanthogranulomatous pyelonephritis; a, communicating abscess cavity; lk, left kidney remnant; n, large renal stone; rk, right kidney.

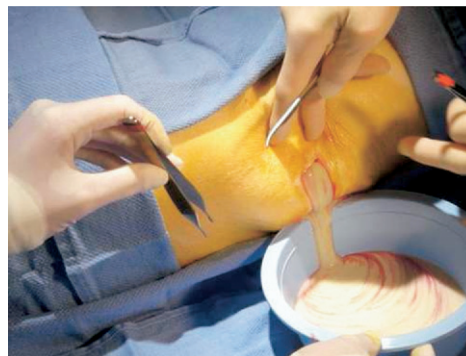


Figure 3. Pus was expressed by simple incision and drainage. Used with permission of Amy C. Sedgwick, MD, Maine Medical Center, Department of Emergency Medicine, Portland, ME.

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An 83-year-old woman presented from a nursing home with “refusal to sleep in a supine position.” On examination, we discovered a boggy, nontender, roughly spherical mass approximately 10 cm in diameter on her left flank. The patient possessed a dense aphasia from a previous cerebral vascular event and had mild dementia; she was unaware of the mass’s presence (Figure 1).

Medical history was significant for a stroke, diabetes, and hypertension.

Physical examination was remarkable for the mass, as described, and the patient’s dense aphasia. Vital signs were normal, and she appeared well. The remainder of her physical examination results were noncontributory.

A bedside ultrasonographic scan revealed a large, multiloculated, cystic structure with minimal recognizable renal tissue. A CBC count, CMP, UA, and computed tomography (CT) of the abdomen and pelvis were obtained.

CT revealed multiple fluid-filled cavities within a structure that had nearly obliterated the left kidney. The process extended through the perinephric space and into the subcutaneous tissue (Figure 2).

For the diagnosis and teaching points, see page 245.

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DIAGNOSIS:

Xanthogranulomatous pyelonephritis. Xanthogranulomatous pyelonephritis is a rare, chronic renal infection most commonly found in middle-aged diabetic and other immunocompromised patients. The incidence is 3 to 4 times higher in women than in men. *Escherichia coli* and *Proteus* are the most common causative organisms, though *Pseudomonas* species have also been implicated.¹

Most cases of xanthogranulomatous pyelonephritis are unilateral and compose less than 1% of all renal infections. Xanthogranulomatous pyelonephritis is thought to be due to long-term renal obstruction and infection, though the exact sequence of events leading to xanthogranulomatous pyelonephritis is unknown. Renal stones occur in 75% of patients with xanthogranulomatous pyelonephritis and often are quite large.²

Patients often seem chronically ill. Symptoms include fevers, weight loss, anorexia, flank pain, and, as in our patient, frank flank mass. Xanthogranulomatous pyelonephritis often creates fistulae; other organs can be involved, including surrounding viscera.

Initial treatment includes surgical debridement and wide-spectrum antibiotics. Nephrectomy is often necessary. Antibiotic therapy should be narrowed once cultures and sensitivities return. Despite occasional massive tissue destruction, overall prognosis is good in xanthogranulomatous pyelonephritis.^{2,3}

Urology specialists were consulted, and it was decided that this woman's age and morbidities precluded nephrectomy as a management option. The wound was incised and drained in concert with urology (Figure 3). We elected to treat her with a Penrose drain alone. Our patient did well after admission. Culture of the purulent fluid revealed pseudomonas. She began receiving intravenous antipseudomonal antibiotics, which were then simplified to oral ciprofloxacin. She was eventually transferred to a skilled nursing facility and was in good condition.

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