Spontaneous Air-Contrasted Renography in Abdominal Plain Film
(See page 693–4 for the Photo Quiz)

Figure 1. Abdominal plain film demonstrating an area of hyperlucency in the right upper quadrant (arrows) and a clear kidney contour.

Figure 2. An abdominal contrast-enhanced CT demonstrated dirty fat stranding, fluid accumulation, and massive gas formation at the right perinephric space (arrows).
Diagnosis: emphysematous pyelonephritis.

The patient was treated with percutaneous drainage, insulin injection, and intravenous antibiotics. The presence of *Klebsiella pneumonia* was confirmed in the pus obtained from percutaneous drainage. The patient’s symptoms and leukocytosis resolved within 3 weeks; there was no recurrence after 1 year of observation.

Emphysematous pyelonephritis is a rare but life-threatening suppurative parenchymal renal infection caused by gas-forming bacteria. Diabetes mellitus with poor glycemic control, urinary tract obstruction, and female sex are recognized risk factors [1–3]. Conventional radiography is often the initial imaging modality used to evaluate patients with abdominopelvic complaints. Although plain abdominal films can show gas in the renal and perirenal space in one-third of emphysematous pyelonephritis cases (figure 1), CT should be the imaging modality of choice (figure 2). CT is both highly sensitive and specific in the detection of abnormal gas and, therefore, is well suited for reliable depiction of anatomic location and the extent or presence of gas [4]. Nephrectomy and open drainage were once considered to be the first lines of treatment, but high-dose antibiotic therapy, percutaneous drainage, and tight control of blood sugar levels are now believed to be a preferable approach to salvage renal function [5–7].

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**References**