

Large air–fluid level in the perinephric space without obstruction

Manish Garg, Manoj Kumar, Kuldeep Sharma, Satyanarayan Sankhwar

Department of Urology, King George Medical University, Lucknow, Uttar Pradesh, India

Correspondence to
Dr Manish Garg,
dr_manugarg@yahoo.co.in

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DESCRIPTION

A 50-year-old woman presented to the urology department with a 20-day history of right flank pain, tenderness and high-grade fever with uncontrolled diabetes. The patient had diabetes for the past 5 years and was on oral hypoglycaemic drugs. On initial evaluation with ultrasound, large perinephric collection with right inferior calyceal calculus was found. Contrast-enhanced CT was suggestive of large perinephric collection with air and debris and inferior calyceal stone diagnostic of right emphysematous pyelonephritis (EPN) (figure 1).

Large collection was admixed of liquefied necrotic material which was settled at the bottom of the perinephric space with air above giving rise to renal air–fluid level simulating abdominal air–fluid

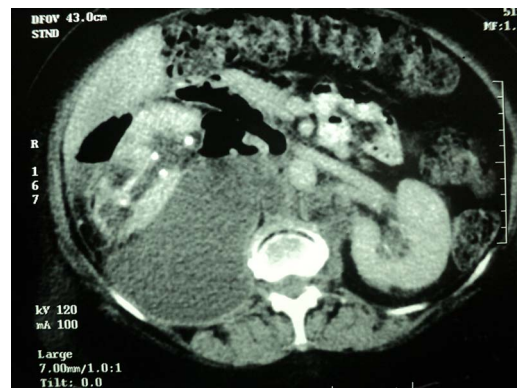


Figure 3 Axial CT section suggestive of the presence of the large collection present posterior-medial and lateral to the non-hydronephrotic right kidney.



Figure 1 CT image showing the right kidney (blue arrow) with inferior calyceal stone (green arrow) and air in the perinephric area (white arrow) with large collection (black arrow).

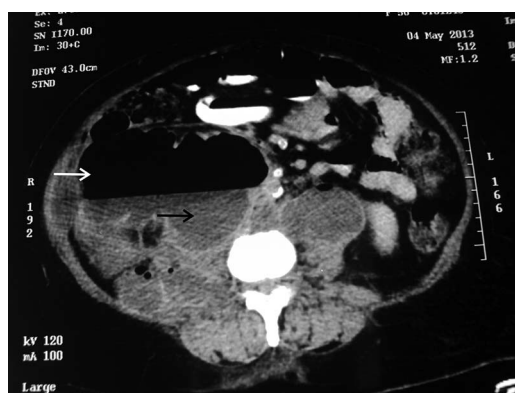


Figure 2 CT image of the large perinephric collection admixed of liquefied necrotic purulent fluid settled at the bottom (black arrow) with air above (white arrow) giving rise to renal air–fluid level suggestive of emphysematous pyelonephritis.

levels, typically seen in conditions of intestinal obstruction (figures 2 and 3). The patient was managed aggressively by control of blood sugar levels and insertion of pigtail catheter in the perinephric space. Urine culture was suggestive of *Klebsiella* and organism-sensitive antibiotics were started accordingly. After complete resolution of collection and once the general condition of the patient stabilised, renal calculus was removed by percutaneous nephrolithotomy in the next admission. The patient was asymptomatic in the follow-up period.

EPN is a severe necrotising renal infection, with characteristic gas formation within or around the kidneys. The condition most commonly occurs in women with diabetes.¹

Learning points

- ▶ Emphysematous pyelonephritis is a morbid condition and may lead to fulminant sepsis and high mortality.
- ▶ The condition requires aggressive management.
- ▶ Every attempt must be performed to salvage the kidney although nephrectomy may be required in some cases.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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- 1 Karthikeyan A, Kumar S, Ganesh G. Emphysematous pyelonephritis. *Indian J Urol* 2005;21:118–19.



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