

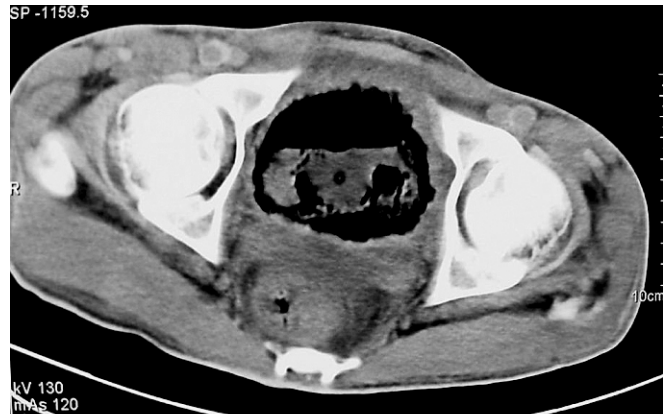
# Emphysematous pyelonephritis with emphysematous cystitis in a young patient with diabetes and chronic calcific pancreatopathy

A young man of 23 years presented to the Accident and Emergency Department of the Sher-i-Kashmir Institute of Medical Sciences, Srinagar with complaints of high grade fever and occasional vomiting for the last 5 days. Previous history revealed the patient to be a known case of insulin dependent diabetes for the last 6 years. His laboratory parameters revealed leucocytosis with random blood glucose of 180 mg%.

Ultrasonography of the abdomen revealed high reflectivity dirty shadows in the bilateral renal region with acoustic shadowing. Similar dirt shadowing was also observed in the bladder area. On non-contrast CT there was extensive destruction of the bilateral kidneys which were largely replaced with gas. The gas was also present in the bilateral perinephric spaces, collecting systems and renal parenchyma (Fig. 1). CT of the pelvis revealed presence of extensive gas collection within the urinary bladder (Fig. 2).



Pancreas revealed multiple parenchymal and ductal calcifications with mild prominence of the main pancreatic duct. These findings were diagnostic of emphysematous pyelonephritis, emphysematous cystitis and chronic pancreatitis. The patient was managed with antibiotics and other supportive measures. Surgical option could not be considered since the patient had bilateral renal involvement.



The patient died on the fifth day of admission.

Emphysematous pyelonephritis is a rare and severe form of renal infection where gas is formed within the renal parenchyma. Extension into the perirenal tissues, renal sinus and collecting system may also occur(1). A significant proportion of patients are diabetics(2). This condition has also been described in transplanted kidneys(3). Organisms found include *E. coli*, *Klebsiella*, *Proteus* and *Aerobacter*(1). Less commonly *Candida* and *Cryptococcus* infection may occur in diabetics(4).

There is high mortality associated with emphysematous pyelonephritis and response to antibiotics alone may be poor. Early nephrectomy has been recommended for diabetics(4). However, this option could not be exercised in our patient since he had bilateral renal affection.

## REFERENCES

1. Allen HA, Walsh JW, Brewer WJ, *et al.* Sonography of emphysematous pyelonephritis. *J Ultrasound Med* 1984; 3: 533.
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3. Evaloff GV, Thompson CS, Foley R, Wienmann EJ. Spectrum of gas within kidney: emphysematous pyelonephritis and emphysematous pyelitis. *Am J Med* 1987; 8: 149.
4. Cook DJ, Achong MR, Dobranowski J. Emphysematous pyelonephritis. Complicated urinary tract infection in diabetes. *Diabetes Care* 1989; 12: 229.

**Sanjeed Ahmed\***, **Irfan Robbani\***, **Sheikh Riyaz Rasool\***, **Nazir A. Khan\*\***

Department of Radiodiagnosis\* & Radiation Oncology\*\*

Sher-i-Kashmir Institute of Medical Sciences, Kashmir, India.

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