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## Emphysematous pyelonephritis: A pathologist's perspective

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Emphysematous pyelonephritis (EPN) is a rare, special form of pyonephritis with radiologic significance affecting female diabetes, characterized by severe, necrotizing, infection of the renal parenchyma, collecting ducts and perinephric tissues by gas forming microorganisms (e.g., *Escherichia coli* and *Klebsiella*). Diverse pathologic features in EPN can cause diagnostic dilemma for pathologist. We report a case of 75 year diabetic, hypertensive male with history of lacunar infarcts and benign prostatic hyperplasia presented with generalized weakness. Laboratory examination revealed neutrophilic leukocytosis, hyperglycemia with *Escherichia coli* in urine and blood culture. Patient received culture directed antibiotics. Despite subsequent surveillance blood cultures were negative; his clinical condition deteriorated. CT scan of the abdomen showed air in the collecting system of the left kidney with no discrete abscess, consistent with EPN. Patient failed to improve and underwent radical nephrectomy. Macroscopic examination of the kidney showed patchy areas of soft, tan/red areas of discoloration (0.7-2.6 cm) with partial loss of corticomedullary junction and no obvious mass lesions. Histology showed neutrophilic abscesses, necrosis of renal parenchyma and emphysematous cystic spaces with no definite lining. Thrombosis, focal glomerulosclerosis and acute tubular necrosis was noted in adjacent kidney parenchyma. The differential consideration's mainly included analgesic nephropathy complicated by bacterial infection, xanthogranulomatous pyonephritis, neutrophilic infiltrate associated with myeloma cast nephropathy, acute lobar nephronia, developmental hypoplasia (Ask-Upmark kidney) and ischemia/infarction. The diagnosis of EPN was rendered considering the radiological and histopathological findings. EPN is a rare, potentially life threatening condition. Clinical information in correlation with imaging and pathologic findings is crucial to clinch the diagnosis.

### Biography

Snehal Shankar Sonawane has completed her Medical School at Government Medical College Miraj and has obtained Diplomate of National Board in Pathology from RSCM government medical college kolhapur. She is presently working as Pathology Resident Physician at University of Illinois at Chicago. Her research work is in area of 'Dry Eye Disease' and is published in reputed journals.

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