



Emphysematous Pyelonephritis with Gas Containing Stag Horn Matrix Renal Stone

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Clinical Image

Emphysematous Pyelonephritis (EPN) is a lethal acute necrotizing infection that affects the kidney. Renal stone and obstruction further increase morbidity in patients with EPN. Simpson et al reported the first case of a gas containing stone in a 68-year-old non-diabetic man with a history of ipsilateral untreated ureteropelvic junction obstruction [1]. Paterson describes that *E. coli* infection in diabetics with an elevated blood and tissue glucose levels may contribute to a favorable environment for gas forming bacteria [2]. Peter et al. [3] reported the intracalculus metabolism by bacteria as the main mechanism producing gas inside the stone. Mortality is higher in patients with delayed presentation. Figure 1(a-d) illustrates axial and coronal sections of Computed Tomography (CT) abdomen showing left renal staghorn calculus filling up the pelvicalyceal system. The calculus demonstrates multiple air pockets within its core. The left kidney appears bulky with mild perinephric fat straining. CT scan is the gold standard for diagnosing renal calculi and can help to detect distal obstruction.

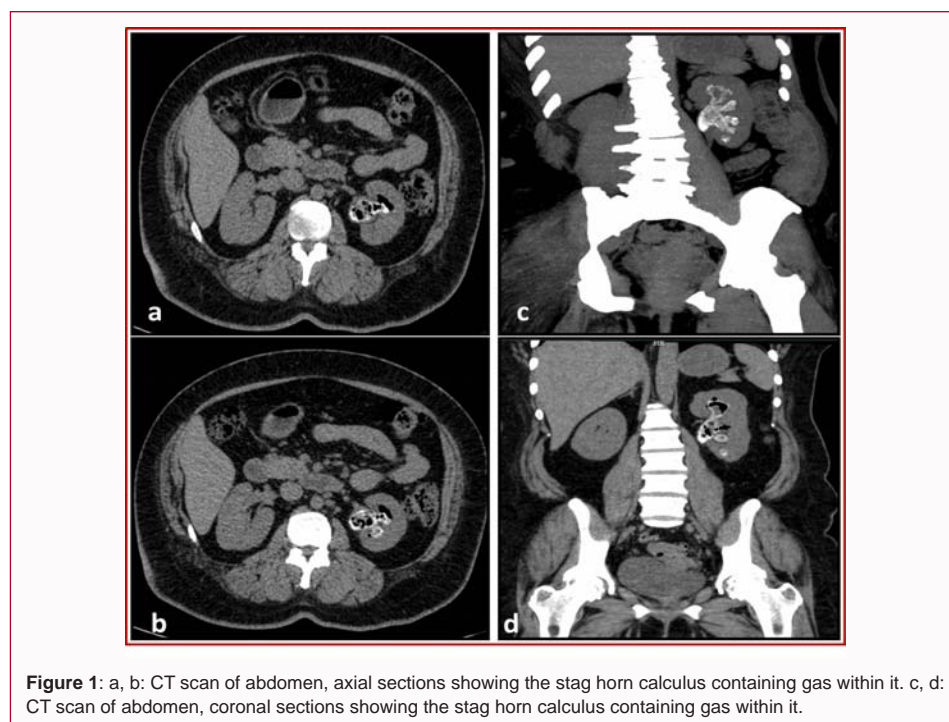


Figure 1: a, b: CT scan of abdomen, axial sections showing the stag horn calculus containing gas within it. c, d: CT scan of abdomen, coronal sections showing the stag horn calculus containing gas within it.

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