

## Answer to Medical Quiz - 2

### Answers:

**Ans. 1.** Right kidney is swollen with multiple air pockets within its parenchyma and right psoas is also swollen specially in upper part.

**Ans. 2.** Class 3B emphysematous pyelonephritis (right) with psoas abscess.

**Ans. 3.** Diabetes mellitus.

**Ans. 4.** Resuscitation (if in shock), intravenous broad-spectrum antibiotic, glycaemic control (using insulin), release of urinary flow obstruction (if any), surgery (in selected cases) along with supportive measures like antipyretics.

### Review:

Emphysematous pyelonephritis is a rare, acute, necrotizing infection of the renal parenchyma, collecting system and/or peri-nephric area and is characterized by gas accumulation within these anatomic locations. Patients with diabetes mellitus, immunosuppressed condition and those having urinary tract obstruction are at increased risk of developing emphysematous pyelonephritis.<sup>1</sup> The spectrum of micro-organisms responsible for emphysematous pyelonephritis are the same as for acute pyelonephritis with *Escherichia coli* being the commonest.<sup>2</sup> Hypoxic conditions and fermentation of glucose by enteric microorganisms produce gases.<sup>1</sup>

Clinical presentation is like that of acute pyelonephritis.<sup>3</sup> Classification is based on CT findings.<sup>1</sup> Treatment modality has changed over the previous decades; broad-spectrum antibiotics, interventional approaches and multi-disciplinary team approaches have contributed to these changes and nephrectomy is less preferred option.<sup>1-4</sup> One recent retrospective study demonstrated that class 3 disease, patients complicated by acute kidney injury and thrombocytopenia required nephrectomy.<sup>3</sup>

### References:

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3. Rahim MA, Ananna MA, Iqbal S, Uddin KN, Latif ZA. Emphysematous pyelonephritis: experience at a tertiary care hospital in Bangladesh. *J R Coll Physicians Edinb* 2021; 51: 19-23. <https://doi.org/10.4997/jrcpe.2021.106>. PMID:33877129
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