

## LETTER TO THE EDITOR

**Emphysematous pyelonephritis: A rare, severe entity***Pielonefritis enfisematosa: una entidad severa rara*Vitorino Modesto dos Santos<sup>1</sup>  Lister Arruda Modesto dos Santos<sup>2</sup> <sup>1</sup> Universidade Católica de Brasília - Department of Medicine - Brasília - Brazil.<sup>2</sup> Hospital do Servidor Público Estadual - Department of Surgery - São Paulo - Brazil.

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Dear Editor:

We read the article authored by Azañero-Haro *et al.*,<sup>1</sup> which reports the case of a middle-aged woman on hemodialysis, suffering from diabetes, arterial hypertension, hypothyroidism, and bilateral coralliform nephrolithiasis who developed emphysematous pyelonephritis, an ominous condition that requires an early diagnosis and treatment to ensure a good prognosis.<sup>1</sup> According to Azañero-Haro *et al.*,<sup>1</sup> the following was observed in a contrast-enhanced computed tomography (CT) scan: nephrolithiasis, pyelocalyceal dilatation, parenchymal loss, and presence of gas with hydroaeric levels in the right kidney. Despite receiving specialized care, the patient developed septic shock and it was necessary to perform a left nephrectomy, achieving a normal clinical course in the postoperative period, which led to her discharge with indication for outpatient follow-up.<sup>1</sup>

In this regard, the purpose of this letter to the editor is to make brief comments based on studies that have described the presence of cystitis or emphysematous pyelitis, in addition to pyelonephritis.<sup>2-5</sup>

Ağar *et al.*<sup>2</sup> reported the case of an 11-year-old girl with *Enterobacter aerogenes* urinary tract infection in whom imaging studies identified the presence of emphysematous cystitis and pyelonephritis. Although the patient had no relevant medical history, her left kidney had hypoactive cortical defects in the upper pole and was smaller than the right one. After two weeks on intravenous antibiotics, the patient was asymptomatic and was discharged with indication for antibiotic prophylaxis. The authors of this case emphasized early diagnosis and treatment as the pillars of a favorable outcome.

Likewise, Kono *et al.*<sup>3</sup> described the case of a 65-year-old woman with diabetes who was admitted in a comatose state and in whom emphysematous right pyelonephritis was observed in abdominal imaging studies. According to these authors, the patient underwent laparotomy with right nephrectomy due to septic shock (presence of *Escherichia coli* in culture studies and infection treated with intravenous meropenem and vancomycin). Three weeks after surgery, the patient was referred to a rehabilitation hospital, highlighting the prompt performance of the nephrectomy for adequate sepsis control.<sup>3</sup>

In another study, Ojeniyi *et al.*<sup>4</sup> reported the case of a 48-year-old man with left emphysematous pyelonephritis and perirenal involvement, bladder lithiasis, and right hydronephrosis in whom left perinephric drainage and antibiotic therapy were not successful after initial management with nephrostomy catheters, requiring surgery with open cystolitholapaxy and left nephrectomy. These authors stress that, based on what happened in this case, more aggressive procedures should be performed to prevent the occurrence of negative outcomes in individuals with a more extensive form of the disease.<sup>4</sup>

Finally, Wamsley *et al.*<sup>5</sup> reported the case of a 66-year-old man with diabetes and emphysematous pyelonephritis confirmed by imaging findings that progressed to septic shock and required bilateral nephrectomy.<sup>5</sup> In this case, according to the authors, the only option available for saving the patient's life was radical surgery with dependence on dialysis.

In conclusion, the data from the articles cited here can increase the index of diagnostic suspicion for this rare entity, which has a guarded prognosis. Thus, diabetes mellitus, nephrolithiasis, and urinary obstruction are predisposing conditions for emphysematous pyelonephritis. Moreover, a complete study of the urinary tract by means of imaging tests is indispensable.

### Conflicts of interest

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