Subcutaneous Emphysema as a Clinical Finding in Emphysematous Pyelonephritis

A 53-year-old woman was admitted to the hospital of a nearby city with pyelonephritis secondary to unilateral urinary tract obstruction due to a calculus in the lower left ureter. Despite IV ciprofloxacin and urinary diversion with a double-J catheter, she progressed to sepsis and acute renal failure and had to be transferred to our hospital due to the need of treatment in an intensive care unity set. At admission, it was noted subcutaneous emphysema at the left anterior abdominal and chest walls. A computed tomography (CT) revealed gaseous destruction of the left kidney and a great amount of air in its surroundings. Extensive air formation was also noted in the abdominal and thoracic walls (Figure 1). She was treated with ciprofloxacin plus amikacin and insulin for a previously unknown diabetes mellitus. Left nephrectomy had to be performed for helping controlling the infection and *E. coli* was cultured from the damaged kidney tissue (the same pathogen was also been cultured –10^7- from a urine sample obtained at admission). She needed hemodialysis for a few days and was discharged after 3 weeks of hospital stay, in insulin therapy, with good health and a serum creatinine of 1.5 mg/dL. Our patient had diabetes mellitus and urinary tract infection by *Escherichia coli* secondary to urinary obstruction, conditions that are the cornerstone for the development of emphysematous pyelonephritis. She was treated with antibiotics and nephrectomy of the affected kidney as recommended for similar cases [1], although a recently published systematic review on the subject pointed out that percutaneous drainage is probably the best initial surgical strategy for emphysematous pyelonephritis [2]. In our patient, the presence of abdominal and throracic subcutaneous emphysema on physical examination drawn the attention for the possibility of emphysematous pyelonephritis, which was confirmed by CT.

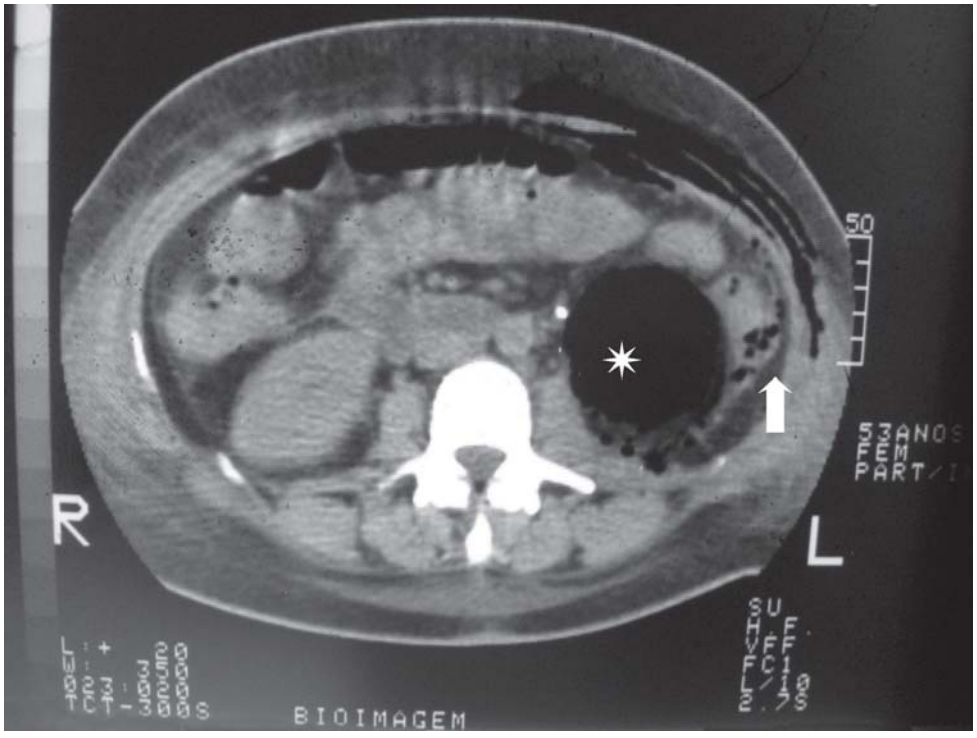

Figure 1. Patient's upper abdominal computer tomography showing gaseous replacement of left kidney (star), air "migrating" from left kidney to thoracic wall (arrow), and large air content at patient´s left anterior throracic wall.

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