Clinical picture

Life-threatening urinary tract infection

A 67-year-old woman visited our hospital due to fever and lower abdominal pain for 2 days. Her medical history included diabetes mellitus and end-stage renal disease, and she was receiving regular hemodialysis. Upon arrival, her vital signs were as followings: heart rate 126/min; body temperature 37.6°C; and blood pressure 113/49 mmHg. Physical examinations revealed lower abdominal tenderness without rebounding pain. Laboratory data showed increased white blood cell (WBC) counts (13 860 µl) with a left shift, and urinalysis revealed gross hematuria and pyuria (50–60 WBCs/high power field). Computed tomography showed air pockets inside the urinary bladder, suggestive of emphysematous cystitis (EC). Profound septic shock developed later despite the administration of strong antibiotics with flomoxef. Notwithstanding, the patient died on the next day. Both blood and urine cultures yielded *Escherichia coli*.

EC is a rare and potentially life-threatening disease characterized by gas accumulation within the bladder.\(^1\) Although it is difficult to distinguish EC from uncomplicated urinary tract infection, it should be noted that it occurs mainly in diabetic patients (up to 80%) and the most prevalent symptom is abdominal pain.\(^2\) The most common pathogen of EC is *E. coli*, followed by *Klebsiella pneumoniae*. The diagnosis of EC is challenging without the aids of imaging studies. A simple abdominal plain film can provide a highly sensitive diagnosis,\(^3\) but computed tomography is considered the best imaging modality.\(^4\) The treatment of EC include antibiotic administration and adequate bladder drainage. Early recognition of EC can decrease morbidity and mortality, especially in diabetic patients with urinary tract infection and abdominal pain.

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References


