Concurrent emphysematous pyelonephritis and emphysematous cholecystitis due to community-acquired ESBL E. coli

Christopher Holbrook, Elizaveta Kalaidina

DESCRIPTION
A 62-year-old man with a history of hypertension and poorly controlled type II diabetes mellitus presented to his primary care physician with a 5-day history of chills, decreased urinary output and haematuria. Urinalysis was consistent with urinary tract infection and the patient was prescribed ciprofloxacin. He did not take the antibiotics as instructed and subsequently had to come to Emergency Room due to worsening of his condition as well as new complaints of increased thirst, dark urine and lower back pain. He also admitted that for the previous 3 days he had not been taken insulin due to his illness. On examination, he was an obese man in no distress, fully alert and oriented. The temperature was 97°F, the blood pressure 125/58 mm Hg, the pulse 112 beats/min, the respiratory rate 16 breaths/min and the oxygen saturation 93% on ambient air. Abnormal findings included scleral icterus, mild jaundice, tachycardia, right upper abdominal and bilateral flank tenderness. On initial blood analysis, the patient was found to have leucocytosis, hyperglycaemia, lactate acidosis and hyperbilirubinaemia. His urinalysis results again supported the diagnosis of urinary tract infection. CT scan of the abdomen and pelvis demonstrated bilateral emphysematous pyelonephritis (figure 1), portal venous gas and emphysematous cholecystitis (figure 2). The patient was initially managed with intravenous fluid...
resuscitation, piperacillin/tazobactam and vancomycin. He was admitted to Medical Intensive Care Unit (MICU) with consultation from general surgery, urology, infectious disease and nephrology. Blood and urine cultures ultimately grew Extended-Spectrum Beta-Lactamase-(ESBL)-producing *Escherichia coli* and the antibiotics were changed to ertapenem based on sensitivities. He underwent percutaneous cholecystostomy drainage and successful percutaneous drainage of the left kidney avoiding nephrectomy. Both specimens were cultured and grew ESBL *E. coli*. His renal function deteriorated and he became dependent on haemodialysis. After 10 days, he was deemed stable enough for surgery and underwent cholecystectomy for what was found to be gangrenous cholecystitis. After a prolonged MICU course and hospitalisation, he survived to be discharged to a nursing facility. He eventually recovered his renal function after several months and came off haemodialysis.

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