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The first case report of *Raoultella planticola* liver abscess

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Introduction: *Raoultella planticola* is a Gram-negative, aerobic, non-motile, encapsulated rod-shaped bacterium belonging to the family Enterobacteriaceae. It is closely related to Klebsiella bacteria species and thus is easily misidentified as *Klebsiella pneumoniae* or *Klebsiella oxytoca.* The bacterium is commonly found in water, soil and damp environments. It is an uncommon pathogen and has rarely been reported to infect humans. To the best of our knowledge, this is the first reported case of a liver abscess caused by *R. planticola.*

Case Report: A 62-year-old male patient with a history of diabetes mellitus type 2, hypertension and benign prostatic hypertrophy presented with complaints of fatigue, increased urinary frequency, mild epigastric tenderness and nausea and vomiting for 5 days. On admission, physical examination revealed a mildly ill-appearing white male, alert and oriented, and in moderate distress. Vital signs revealed a temperature of 37 °C, pulse of 127 beats per minute and a blood pressure of 117/76 mmHg. His physical exam was unremarkable except for tenderness to palpation in the right upper quadrant. Laboratory data on admission were notable for the following (reference ranges provided parenthetically): Creatinine 3.1 mg/dL (0.8-1.3 mg/dL) with a baseline of 1.4 mg/dL, glucose 500 mg/dL, WBC 12 k/mm3 with 93% neutrophils. Liver function results were: Alkaline phosphatase 351 unit/L (50-100 U/L) and bilirubin 2.1 mg/dL (0.3 to 1.9 mg/dL). There was an anion gap of 26 with lactic acid of 1.74 mmol/L (0.5-1 mmol/L). Urinalysis revealed +2 proteins, large bacteria, negative nitrites, positive leukocyte esterase and 3 white blood cells per hpf. Treatment was initiated for diabetic ketoacidosis secondary to underlying sepsis with intravenous fluid resuscitation, insulin drip and empiric antibiotic therapy with piperacillin-tazobactam. Initial blood and urine cultures grew Gram-negative bacilli later identified as *R. planticola.* An abdominal CT scan revealed a complex multicystic mass in the medial left hepatic lobe suggestive of a hepatic abscess. Based on these findings, antibiotics were changed to ceftriaxone to provide better biliary and hepatic penetration and the patient underwent a percutaneous drainage of the hepatic abscess, during which 80 ml of purulent fluid was removed. A sample of the fluid was sent for Gram stain and culture. Aerobic and anaerobic cultures of the aspirate revealed only *R. planticola.* The organism was found to be susceptible to ciprofloxacin, cephalosporin, tobramycin and aminoglycosides. The patient's drainage tube was removed after 8 days and the patient discharged home to complete a 2-week course of IV ceftriaxone 2 g daily followed by ciprofloxacin 500 mg BID for an additional 28 days. Follow up of the patient at 2 months post treatment revealed resolution of his symptoms and improvement of his liver abscess on a CT scan.

Biography

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