



CASE REPORT

Pentad's Triad:
 Revisiting Reynold's Pentad
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Introduction

Acute cholangitis is a potentially life-threatening complication of choledocholithiasis. It is defined as a triad of fever, jaundice, and right upper quadrant pain, also known as Charcot's Triad.¹ Sequelae of acute cholangitis includes suppurative cholangitis, known as Reynold's pentad. Reynold's pentad includes Charcot's Triad, hypotension, and altered mental status.² This report describes an unusual case of acute cholangitis in a patient who manifested three of the five findings of Reynold's pentad.

Case Report

An 88-year-old black woman presented with decreased oral intake, nausea, vomiting, and right upper quadrant pain that started two days prior to presentation. Her mental status was normal. The patient denied any history of fever, chills, or sweats. No change was reported in bowel movement in the form of diarrhea, melena, or hematochezia and no hematemesis

occurred. She was afebrile and normotensive with initial blood work showing a bilirubin of 4.7 mg/dL with a predominance of conjugated (2.9 mg/dL) versus unconjugated (1.8 mg/dL). AST was 423 U/L, ALT 336 U/L, and alkaline phosphatase 271 U/L. The patient's white blood count was 11,800 cells/cmm. She also had a urinary tract infection.

A sonogram of the liver showed a 1.1 cm stone at the neck of the gallbladder without evidence of cholecystitis (Figure 1) and the common bile duct (CBD) was dilated up to 9 mm (Figure 2). She was started empirically on piperacillin/tazobactam for possible acute ascending cholangitis. A surgical consult resulted in a magnetic resonance cholangiopancreatography (MRCP) showing increased CBD dilatation to 1.4 cm. There was a 0.9 cm T2 hypointense focus at the ampulla of Vater, possibly representing a choledocholithiasis and a 0.9 cm stone at the gallbladder neck.

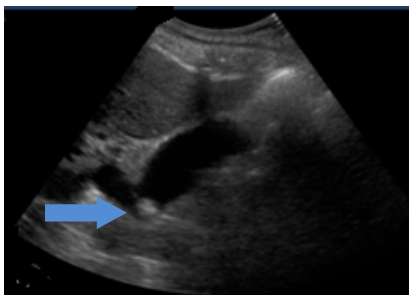


Figure 1. A 1.1 cm cholelithiasis at neck of gallbladder.

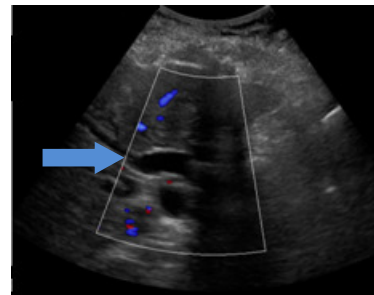


Figure 2. Common Bile Duct is 0.9 cm.

The patient had positive blood cultures growing gram-negative bacillus. The blood culture grew *Citrobacter freundii* which was susceptible to piperacillin/tazobactam. Within 25 hours of admission, her blood pressure dropped to 72/42 mmHg, requiring vasoconstrictors with norepinephrine and vasopressor, with a pulse of 102 bpm. The patient also developed worsening mental status and acute delirium.

A gastroenterologist was consulted and the patient was taken for urgent endoscopic retrograde cholangiopancreatography (ERCP) less than 36 hours after admission. ERCP showed a filling defect representing

choledocholithiasis obstructing the distal aspect of the common bile duct (Figure 3). The INR was high (1.9) so a cholecystectomy was not recommended. She was on vasopressor and antibiotics. The decision was made to place a 7Fr 10 cm biliary stent without performing a sphincterotomy. Purulent drainage was seen upon stent deployment, followed by adequate bile flow (Figure 4). The next day, the patient's mental status returned to baseline. She had developed a leukocytosis of 20,000 cells/cmm. Her septic shock resolved off vasopressor agents and continued antibiotic therapy.

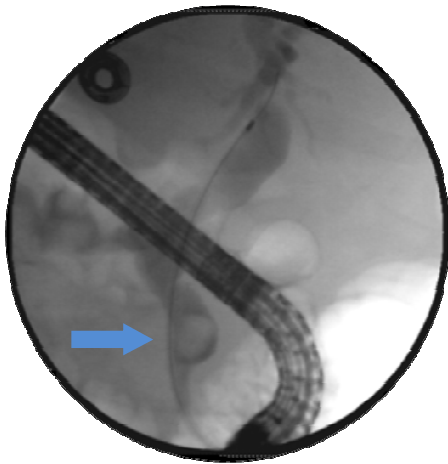


Figure 3. ERCP showing 9 mm choledocholithiasis at distal CBD.

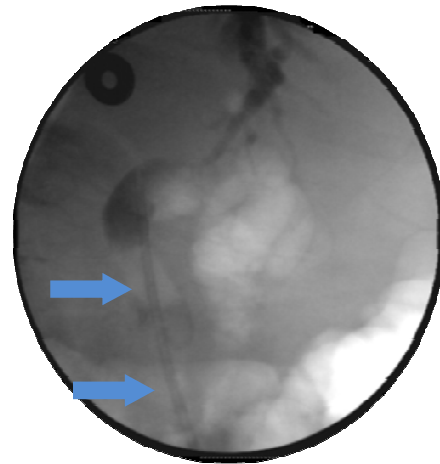


Figure 4. ERCP after stent placement bypassing choledocholithiasis at ampulla of Vater.

Discussion

This patient presented with acute cholangitis, which is a clinical diagnosis based on Charcot's Triad: fever, jaundice, and right upper quadrant pain.¹ Yet, our patient did not have fever or dermatologic evidence of jaundice, but she had icterus and a bilirubin level of 4.7mg/dL. Our patient was afebrile throughout her hospitalization. Interestingly, the elderly may not manifest fever during acute cholangitis.³ Our patient's clinical course became complicated by hypotension with septic shock and decreased

mental status with delirium, which suggested Reynold's pentad or suppurative cholangitis.^{4,5} We labeled the presentation of signs and symptoms as Pentad's Triad because our patient truly manifested three of the five findings of Reynold's pentad. Suppurative cholangitis may be associated with increased mortality, especially in the elderly population.^{6,7}

Treatment involves blood pressure support, antibiotic management, and endoscopic choledocholithiasis retrieval

with sphincterotomy or stent placement if stone retrieval and sphincterotomy is contraindicated, such as in coagulopathies.⁸⁻¹⁰ In case of the latter, a second attempt is made when the clinical acuity defervesce.

References

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Keywords: choledocholithiasis, cholangitis, case report