Timely Diagnosis in Atypical Acute Cholangitis: Preventing Severe Complications

Alex Boyd, OMS III, Rodney Scott Whitby, MD FACP
DeBusk College of Osteopathic Medicine, Lincoln Memorial University, Knoxville, TN 37932
West Tennessee Healthcare, Henry County Hospital, Paris, TN 38242

Introduction

- Acute ascending cholangitis, or acute cholangitis, is an ascending bacterial infection of the biliary tree.
- Most common organisms are gram-negative and anaerobic organisms *Escherichia coli*, *Klebsiella*, *Enterobacter*, and *Pseudomonas*.
- Most common causes include choledocholithiasis and benign or malignant strictures of biliary ducts including pancreatic cancer, ampullary adenoma or cancer.
- Choledocholithiasis causes a complete or partial obstruction in the common bile duct.
- Cholangitis is uncommon as there are less than 200,000 cases of acute cholangitis annually.
- Mortality can be high if it is not diagnosed and treated in a timely fashion.
- Complications include hepatic abscess, portal vein thrombosis, liver failure, acute biliary pancreatitis, bacteremia/septicemia, and multiple organ failure.

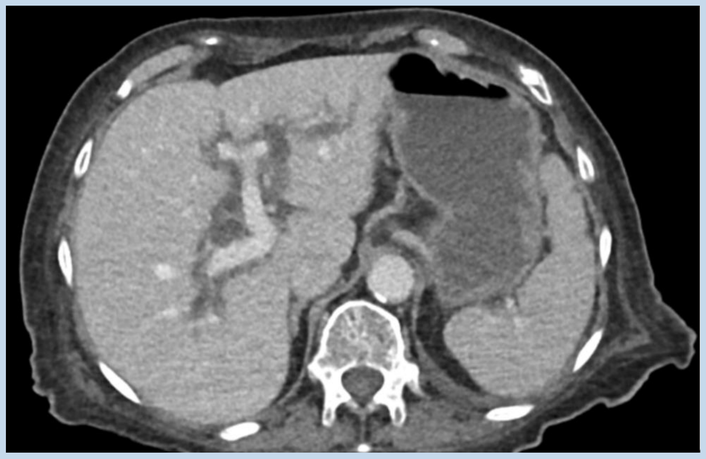

Figure 1: Abdominal CT showing dilation of intrahepatic and extrahepatic ducts with inflammation of biliary tree. Note of possible co-existing pathologies such as hepatic or pancreatic tumors.

Case of Interest

- 71- year old female presents to clinic for acute abdominal pain. Started 3 days ago. Pain was located in upper abdomen and felt like a “charley horse in my belly.” She had nausea, vomiting, and uncontrollable shivering while waiting to be triaged in the ER. She had off and on fever with stomach pain that she describes as a “tight strap around my belly with shooting pains”. She also had a cough when taking deep breaths, chest heaviness, and shortness of breath which have affected her ADLs.
- **History:**
  - Iron infusion on the day sx started
  - Cholecystectomy in 07/2024
  - Excision of left breast on 04/2022
  - PMH of afib, CKD, GERD, hiatal hernia, breast cancer, prior GI bleed, and iron deficiency anemia.
- **Physical Exam:**
  - Temp: 101.2 F, BP: 113/72, and HR: 137 bpm
  - She is awake and alert, slightly jaundiced, with soft, tender epigastrium, no hepatomegaly or splenomegaly
  - Remaining physical exam was benign
- **Laboratory:**

ALBUMIN	3.8	3.8-4.8	G/DL	NORMAL
GLOBULIN, TOTAL	2.0	1.5-4.5	G/DL	
BILIRUBIN, TOTAL	**1.3**	**0.0-1.2**	**MG/DL**	**ABOVE HIGH NORMAL**
ALKALINE PHOSPHATASE	**397**	**49-135**	**IU/L**	**ABOVE HIGH NORMAL**
AST (SGOT)	**184**	**0-40**	**IU/L**	**ABOVE HIGH NORMAL**
ALT (SGPT)	**328**	**0-32**	**IU/L**	**ABOVE HIGH NORMAL**

Table 2: Abnormal results from comprehensive metabolic panel

Imaging:

- Abdominal CT ordered revealing possible mass or noncalcified stone or sludge in distal common bile duct in the pancreatic head region, requiring further evaluation.

- **Differential Diagnosis:**
  - Acute ascending cholangitis
  - Acute pancreatitis
  - Pancreatic malignancy
  - Acute hepatitis

Next Steps/Treatment

- Presents to HCMC ER with abdominal pain and sepsis.
- Blood cultures were obtained, she was started on metronidazole, and transferred to Ascension Saint Thomas Hospital
- GI was consulted and she was taken for Endoscopic retrograde cholangiopancreatography (ERCP) where 3 large stones were removed from common bile duct.
- Blood cultures grew E.coli and she was switched to ceftriaxone
- WBC steadily improved, repeat blood cultures were obtained showing no growth
- She completed appropriate amount of antibiotics for gram – negative bacteremia and was discharged

Discussion

- This case highlights the atypical presentation of acute cholangitis, as the patient did not exhibit the classic Charcot triad (fever, right upper quadrant pain, jaundice).
- She presented with fever, mild jaundice, and non-specific epigastric pain, emphasizing that variable symptoms can delay diagnosis.
- Diagnosis requires correlation of:
  - Laboratory findings (leukocytosis, elevated bilirubin, alkaline phosphatase, transaminases)
  - Imaging (ultrasound, CT, or MRCP demonstrating biliary dilation or obstruction)
  - Definitive evaluation with ERCP, which allows both confirmation and therapeutic decompression
- Delayed recognition may result in septic shock, multiorgan failure, and increased mortality.
- Imaging may mimic pancreatic or biliary malignancy, further complicating diagnosis.
- Prompt identification and urgent biliary decompression are essential to reduce morbidity and mortality.

Osteopathic Pearls

- Gallbladder Chapman Point: 6th right intercostal space
- Pancreas Chapman Point: 7th right intercostal space
- Upper GI Viscerosomatic Reflex: T5-9

References