

AMSER Case of the Month

September 2026

59 year old male with abdominal pain



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Patient Presentation

- **HPI:** 59 yr old presenting with 3 days of mid abdominal pain with radiation to flanks. Also experiencing bloating, constipation, and nausea. No vomiting, fever, or chills.
- **PMH:** hypercholesterolemia, kidney stones
- **PSH:** bilateral inguinal hernia repair
- **Vitals:** Afebrile, hypertensive at 140/63
- **Temp** 36.8 (98.2), HR 78, RR 16, BP 140/63, SpO2 99

Pertinent Labs

- WBC: 9.0
- Hgb: 13.5
- Total Bilirubin: 3.4
- ALT: 259
- Alk Phos: 186
- AST: 223
- Glucose: 174
- GFR: 70
- Lipase: 53

What Imaging Should We Order?

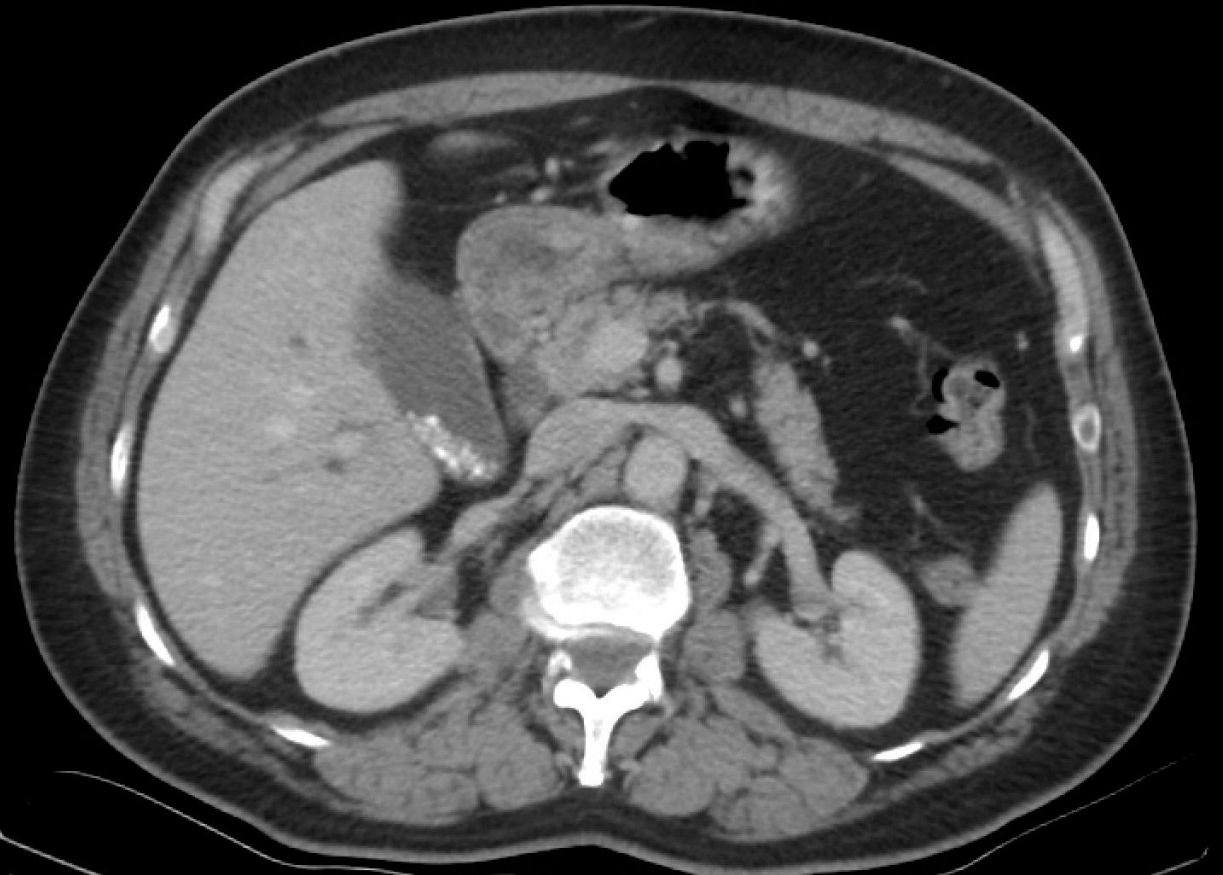
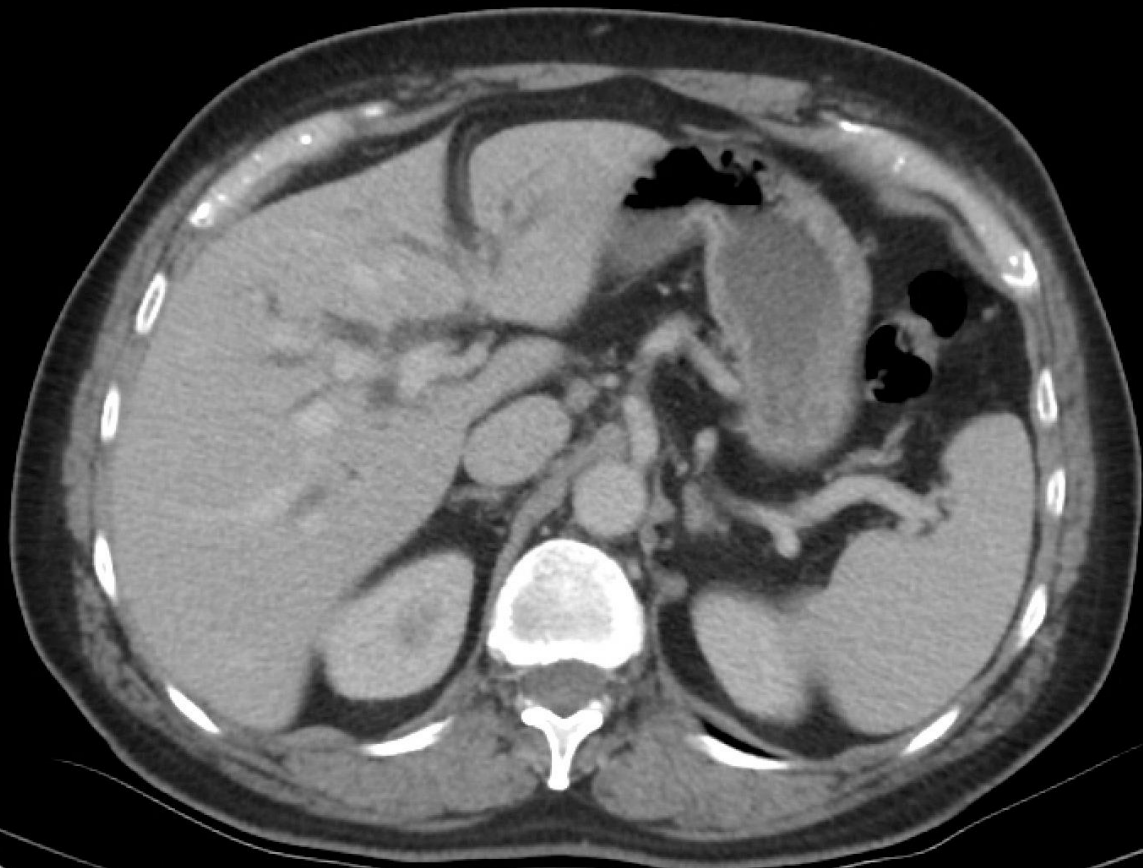
Select the applicable ACR Appropriateness Criteria

Variant: 1 Acute nonlocalized abdominal pain and fever. No recent surgery. Initial imaging.

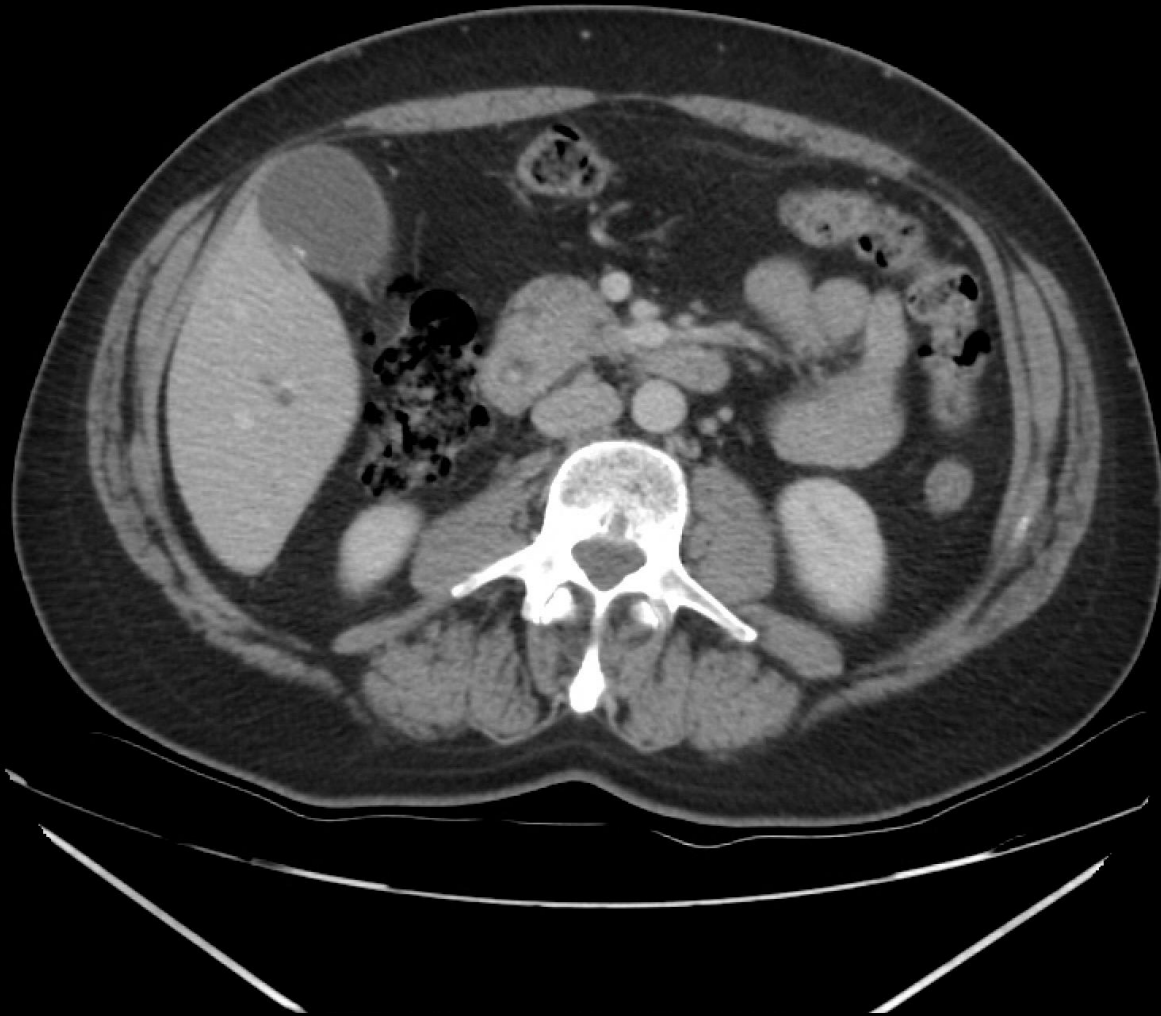
Procedure	Appropriateness Category	Relative Radiation Level
CT abdomen and pelvis with IV contrast	Usually Appropriate	☢☢☢
US abdomen	May Be Appropriate	○
Radiography abdomen	May Be Appropriate	☢☢
MRI abdomen and pelvis without and with IV contrast	May Be Appropriate	○
MRI abdomen and pelvis without IV contrast	May Be Appropriate	○
CT abdomen and pelvis without IV contrast	May Be Appropriate	☢☢☢
CT abdomen and pelvis without and with IV contrast	May Be Appropriate	☢☢☢☢
Fluoroscopy contrast enema	Usually Not Appropriate	☢☢☢
Fluoroscopy upper GI series with small bowel follow-through	Usually Not Appropriate	☢☢☢
Nuclear medicine scan gallbladder	Usually Not Appropriate	☢☢
FDG-PET/CT skull base to mid-thigh	Usually Not Appropriate	☢☢☢☢
WBC scan abdomen and pelvis	Usually Not Appropriate	☢☢☢☢

This imaging modality was ordered by the ER physician

Findings (unlabeled)

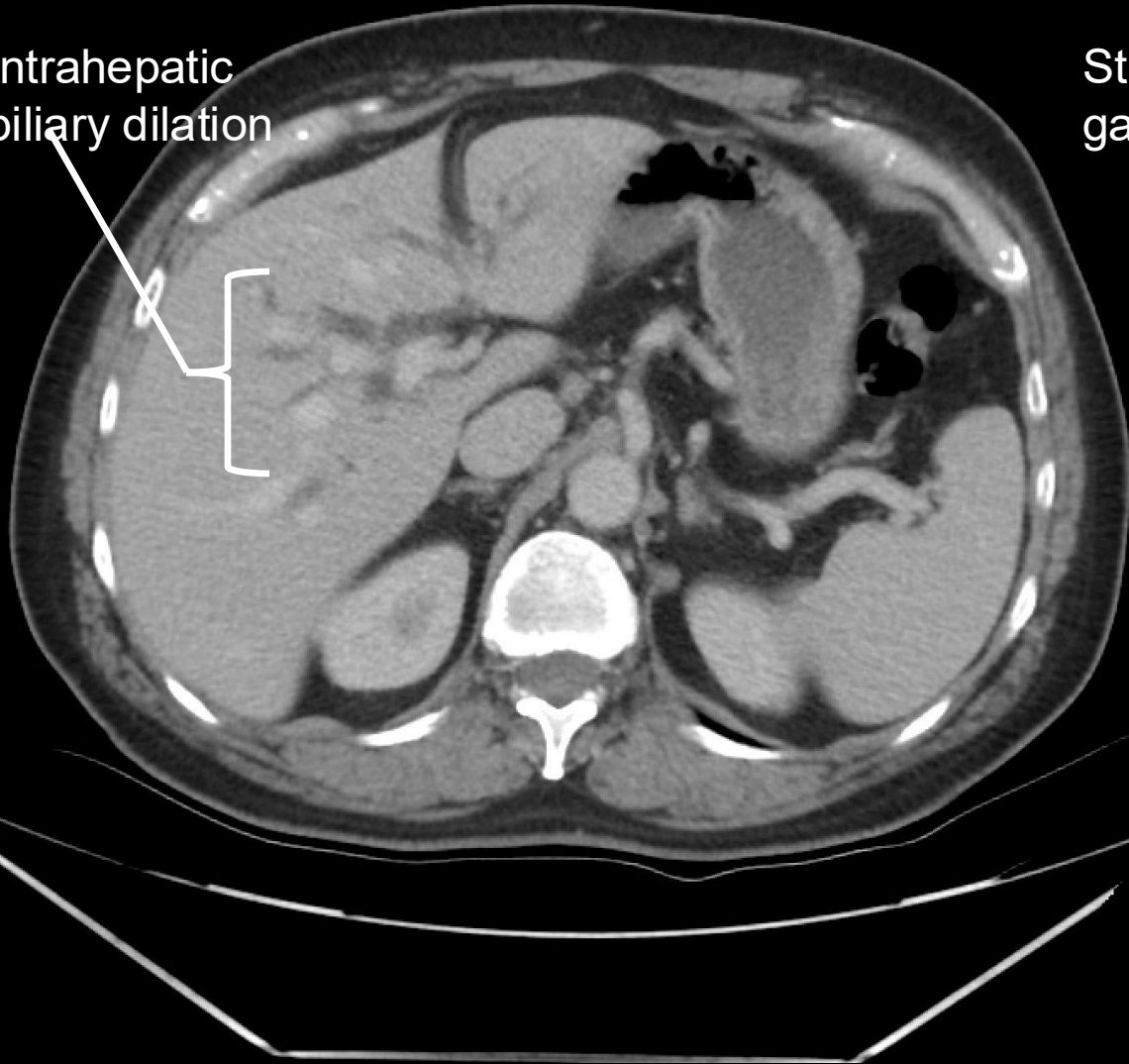


Findings (unlabeled)

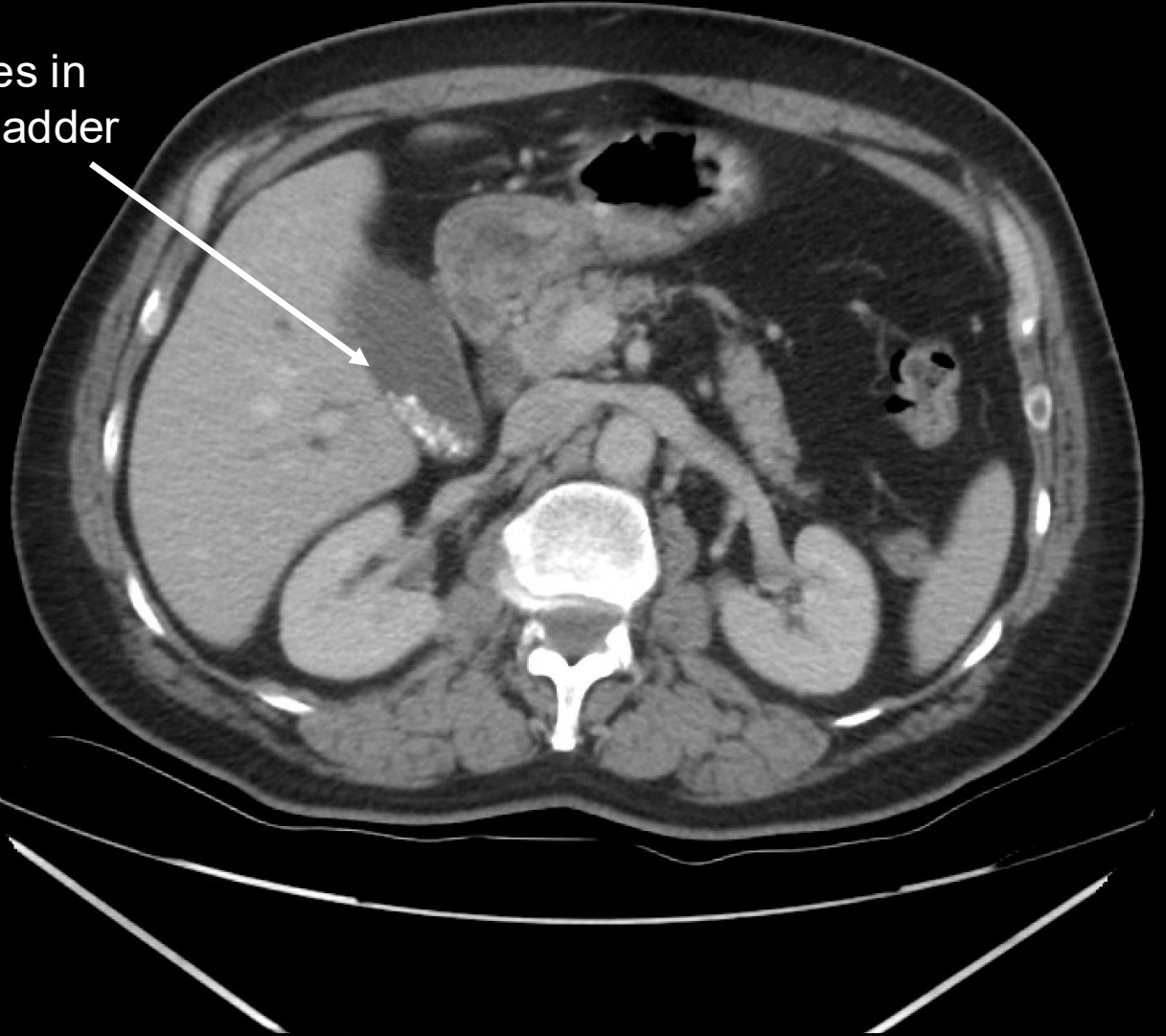


Findings (labeled)

Intrahepatic
biliary dilation

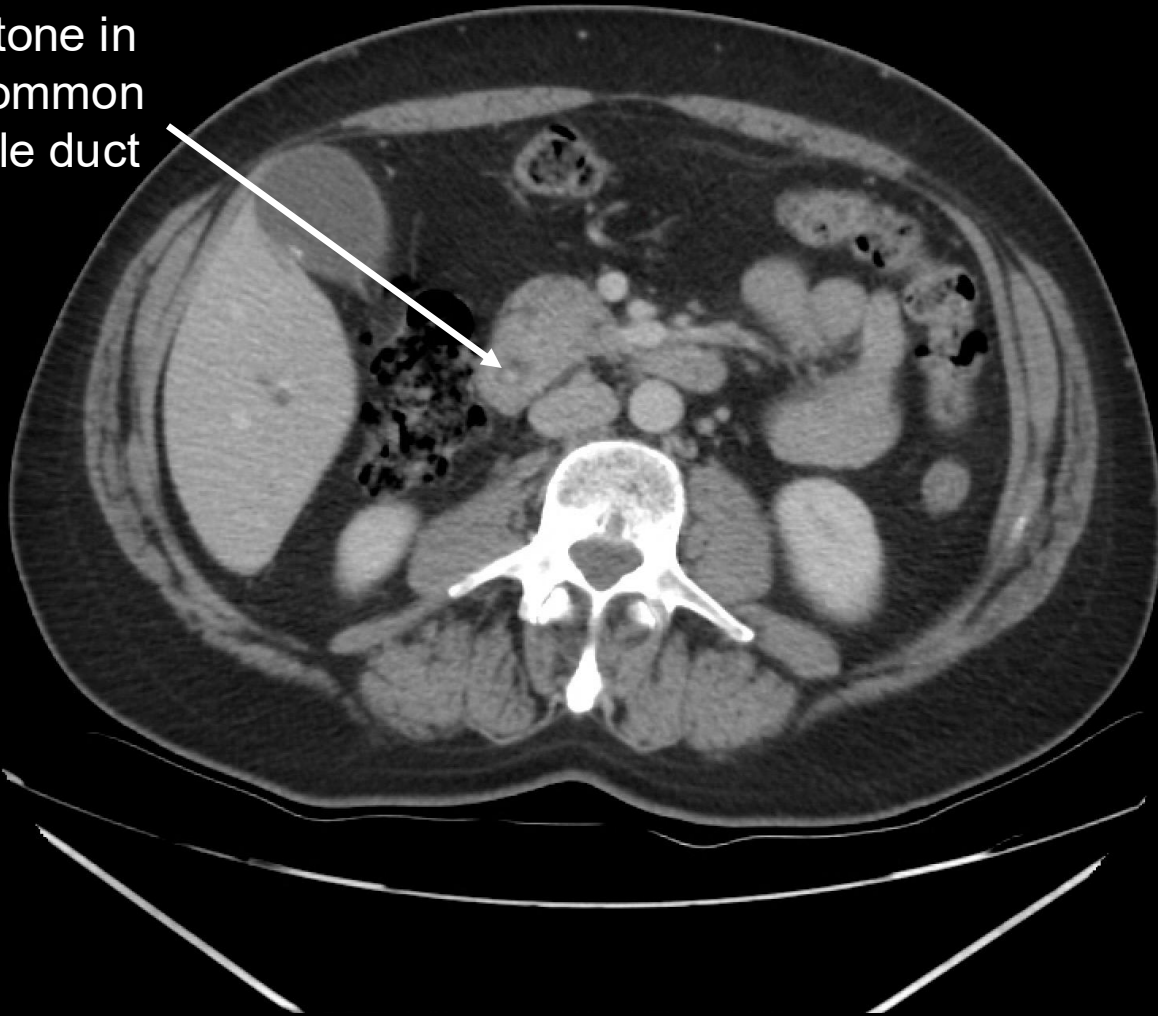


Stones in
gallbladder



Findings (labeled)

Stone in
common
bile duct



Dilated common
bile duct

Stone in common
bile duct

Final Dx:

Cholelithiasis with choledocholithiasis

Case Discussion

- Patient has findings of a stone in common bile duct with mild common duct dilation of up to 1 cm. Imaging also showed evidence of multiple small gallstones and a moderately distended gallbladder. This is consistent with cholelithiasis with choledocholithiasis. ¹
- Presentation can be variable, often includes some combination of right upper quadrant pain, jaundice, nausea and vomiting, fever, chills, and/or pale stools or dark urine.
- If choledocholithiasis suspected, LFTs and abdominal ultrasound are recommended ²
 - In this patient, LFTs and total bilirubin were elevated, with US confirming CT findings.

Case Discussion

- **Risk stratification:**

- **High risk** (> 50% chance of choledocholithiasis) if any of the following are present:
 - Common bile duct stone in the transabdominal ultrasound
 - Clinical ascending cholangitis
 - Combination of both serum bilirubin levels >4 mg/dL and bile duct dilation
 - Bile Duct Dilation:
 - >6 mm in patients who have not had cholecystectomy
 - >8 mm in patients who have had cholecystectomy
 - This patient was high risk, so ERCP was performed with interval cholecystectomy
- **Intermediate risk:** >55 yo, has dilated bile duct, or any abnormal LFT
- **Low risk:** none of the above findings

Case Discussion

- **Treatment** determined by risk for choledocholithiasis ³
 - High Risk: Assess the CBD with ERCP
 - Intermediate Risk: Endoscopic ultrasound or MRCP
 - Low Risk: symptomatic gallstones in gallbladder, then consider cholecystectomy. Otherwise if high clinical suspicion, then MRCP
- **Complications:** Acute pancreatitis, acute cholangitis, cholecystitis, biliary obstruction and cirrhosis ⁴
- **Recurrence:** 4-24% of patients within 15 years.
 - Possible even after gallbladder removal due to bile stasis, bacteriobilia, or retained stones from prior treatment.
 - Recurrence more likely if duct dilation is ≥ 13 mm and presence of periampullary diverticulum ⁵

References:

1. DynaMed. Choledocholithiasis. EBSCO Information Services. Accessed July 26, 2026. <https://www.dynamed.com/condition/choledocholithiasis>
2. Manes G, Paspatis G, Aabakken L, Anderloni A, Arvanitakis M, Ah-Soune P, et al, Endoscopic management of common bile duct stones: European Society of Gastrointestinal Endoscopy (ESGE) guideline. *Endoscopy*. 2019 May;51(5):472-491.
3. American Society for Gastrointestinal Endoscopy (ASGE) Standards of Practice Committee, Buxbaum JL, Abbas Fehmi SM, Sultan S, Fishman DS, et al. ASGE guideline on the role of endoscopy in the evaluation and management of choledocholithiasis. *Gastrointest Endosc*. 2019 Jun;89(6):1075-1105.e15.
4. Almadi MA, Barkun JS, Barkun AN. Management of suspected stones in the common bile duct. *CMAJ*. 2012 May 15;184(8):884-92.
5. Cai JS, Qiang S, Bao-Bing Y. Advances of recurrent risk factors and management of choledocholithiasis. *Scand J Gastroenterol*. 2017;52(1):34-43. doi:10.1080/00365521.2016.1224382