

AMSER Case of the Month

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63-year-old female presenting with RUQ pain

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Patient Presentation

- 63-year-old female with h/o anxiety and osteoarthritis
- Intermittent crampy RUQ abdominal pain for one month
- Vomiting and worsening of pain w/ meals
- ROS positive for abdominal pain, bloody stools, nausea, and vomiting
- Vitals:
 - BP 125/64 mmHg, HR 73 BPM, RR 18, T 99.7 F
- Physical exam showed a female in acute distress with scleral icterus and RUQ abdominal tenderness

Pertinent Labs

- CBC: wnl
- CMP:
 - AST - 182 U/L (10-34)
 - ALT - 311 U/L (7-40)
 - Alkaline Phosphatase - 519 U/L (35-104)
 - Total bilirubin: 7.5 U/L (0.0-1.2)
- Lipase: 37 U/L (6-75)

What Imaging Should We Order?

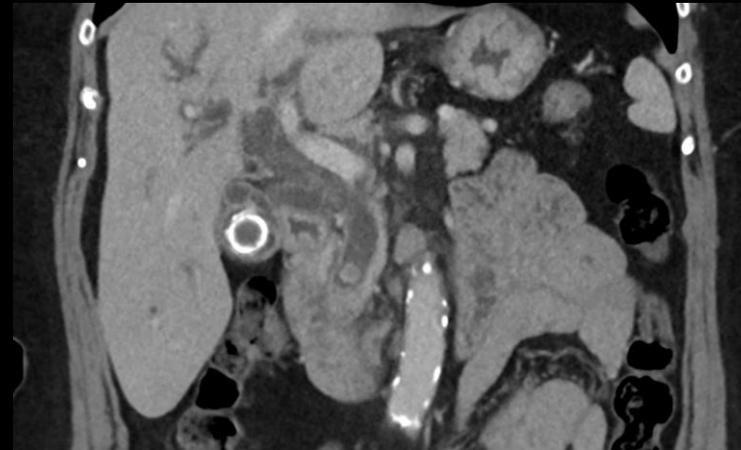
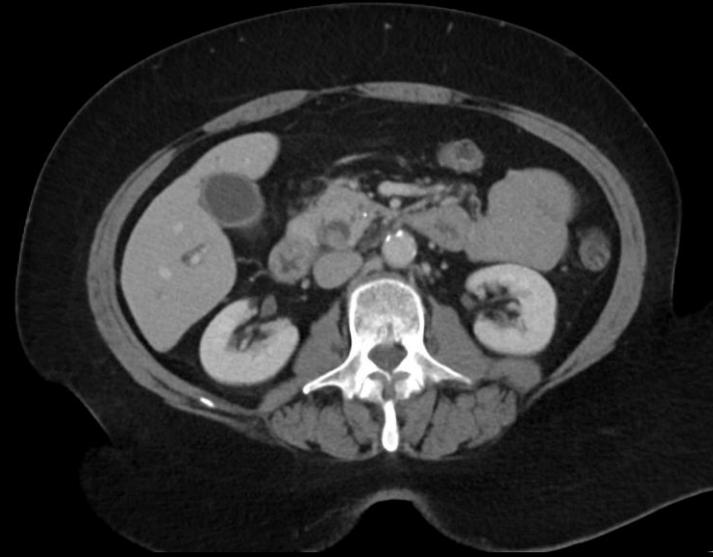
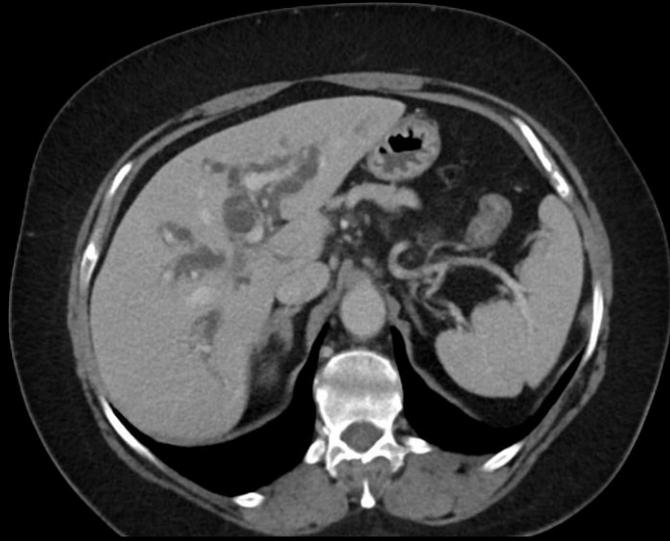
Select the applicable ACR Appropriateness Criteria

Variant 1: Right upper quadrant pain. Suspected biliary disease. Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
US abdomen	Usually Appropriate	0
CT abdomen with IV contrast	May Be Appropriate	⚠⚠⚠
MRI abdomen without and with IV contrast with MRCP	May Be Appropriate	0
MRI abdomen without IV contrast with MRCP	May Be Appropriate	0
Nuclear medicine scan gallbladder	May Be Appropriate	⚠⚠
CT abdomen without IV contrast	May Be Appropriate	⚠⚠⚠
CT abdomen without and with IV contrast	Usually Not Appropriate	⚠⚠⚠⚠

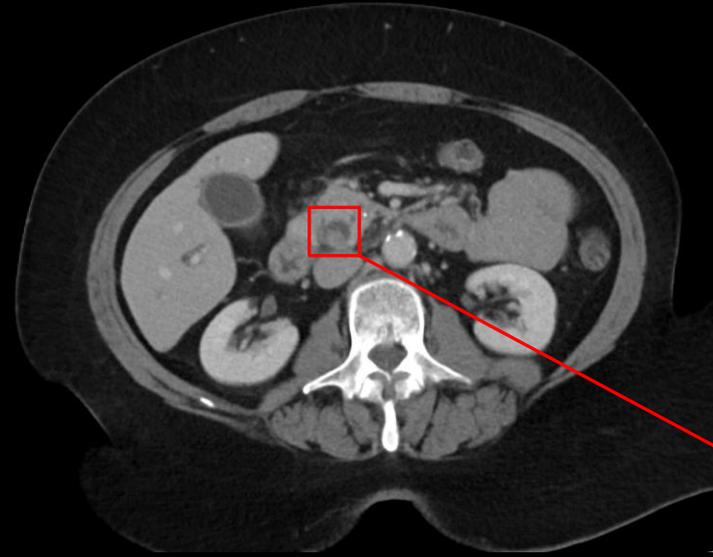
This imaging modality was ordered by the ER physician

Findings (unlabeled)



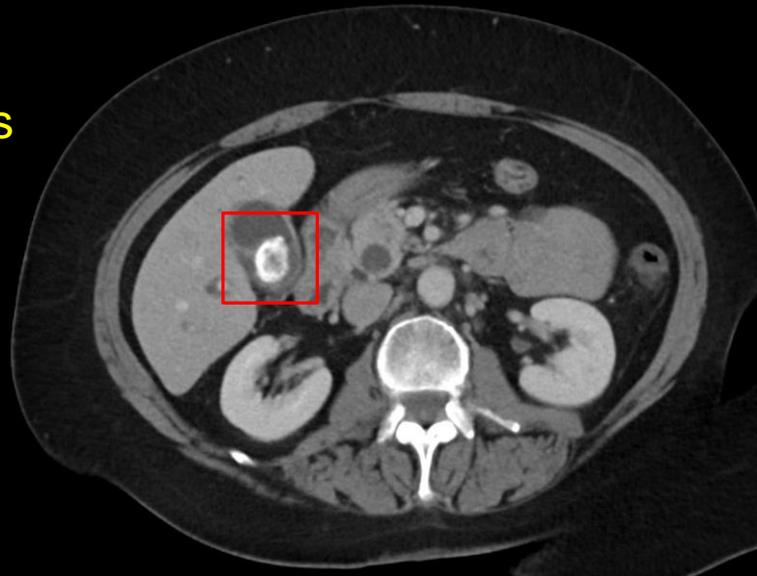
Findings (labeled)

Intrahepatic
biliary ductal
dilation



Stone in the common
bile duct

Cholelithiasis



Final Dx:

Choledocholithiasis

Choledocholithiasis

- Etiology:
 - Passage of stones formed in the gallbladder into the common bile duct
 - Formation of stones within CBD
 - Stones >5mm frequently obstruct CBD
- Clinical Presentation:
 - History:
 - Intermittent colicky pain in the RUQ of the abdomen, moderate in severity
 - Nausea, vomiting
 - Physical Exam:
 - RUQ abdominal tenderness
 - Jaundice
 - Fever, hypotension, and AMS possible in cases of infection/sepsis

Choledocholithiasis

- Evaluation:
 - Labs:
 - CBC, CMP, lipase (gallstone pancreatitis), INR (intrinsic liver function)
 - Imaging:
 - Transabdominal U/S (first line)
 - CBD dilation (>6mm) and stones within CBD
 - MRCP
 - Visualization of stone in CBD, CBD dilation, "meniscus sign"
 - CT
 - Visualization of stone in CBD, can better detect non-lithiasic causes of obstruction
 - Second line due to radiation dose
- Treatment: ERCP w/ sphincterotomy, possibly biliary stent placement and cholecystectomy

References:

- DynaMed. Choledocholithiasis. EBSCO Information Services. Accessed July 22, 2022.
- Mandelia A, Gupta AK, Verma DK, Sharma S. The Value of Magnetic Resonance Cholangio-Pancreatography (MRCP) in the Detection of Choledocholithiasis. J Clin Diagn Res. 2013 Sep;7(9):1941-5.
- McNicoll CF, Pastorino A, Farooq U, St Hill CR. Choledocholithiasis. 2022 May 9. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing.
- Ratanaprasatporn L, Uyeda JW, Wortman JR, Richardson I, Sodickson AD. Multimodality Imaging, including Dual-Energy CT, in the Evaluation of Gallbladder Disease. Radiographics. 2018 Jan-Feb;38(1):75-89.