AMSER Case of the Month
October 2022

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.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>Relative Radiation Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>US abdomen</td>
<td>Usually Appropriate</td>
<td>0</td>
</tr>
<tr>
<td><strong>CT abdomen with IV contrast</strong></td>
<td>May Be Appropriate</td>
<td>4</td>
</tr>
<tr>
<td>MRI abdomen without and with IV contrast with MRCP</td>
<td>May Be Appropriate</td>
<td>0</td>
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<tr>
<td>MRI abdomen without IV contrast with MRCP</td>
<td>May Be Appropriate</td>
<td>0</td>
</tr>
<tr>
<td>Nuclear medicine scan gallbladder</td>
<td>May Be Appropriate</td>
<td>3</td>
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<tr>
<td>CT abdomen without IV contrast</td>
<td>May Be Appropriate</td>
<td>4</td>
</tr>
<tr>
<td>CT abdomen without and with IV contrast</td>
<td>Usually Not Appropriate</td>
<td>6</td>
</tr>
</tbody>
</table>

This imaging modality was ordered by the ER physician.
Findings (unlabeled)
Findings (labeled)

Intrahepatic biliary ductal dilation

Cholelithiasis

Stone in the common bile duct
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:


