

AMSER Case of the Month: November 2023

36-year-old woman with midline lower abdominal pain

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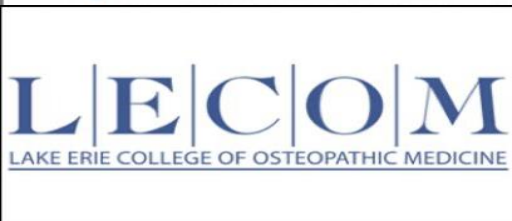
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Patient Presentation

- HPI: 36-year-old woman presents to the ED with stabbing intermittent lower abdominal pain starting the day prior while eating dinner
- Pertinent Medical History: GERD, herpes, hiatal hernia, hypertension, lactose intolerance
- Medications: Atenolol 25mg, Irbesartan 150mg, Pantoprazole 40mg BID

Pertinent Labs

- Physical Exam
 - Abdomen: tender to touch midline below the umbilicus
- Labs
 - Auto WBC: 21.74
 - Absolute neutrophil count: 17.22
 - Glucose: 138

What Imaging Should We Order?

Select the applicable ACR Appropriateness Criteria

Variant 1: Left lower quadrant pain. Initial imaging.		
Procedure	Appropriateness Category	Relative Radiation Level
CT abdomen and pelvis with IV contrast	Usually Appropriate	☼☼☼
US abdomen transabdominal	May Be Appropriate	○
US pelvis transvaginal	May Be Appropriate	○
Radiography abdomen and pelvis	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	☼☼☼
Fluoroscopy contrast enema	Usually Not Appropriate	☼☼☼
CT abdomen and pelvis without and with IV contrast	Usually Not Appropriate	☼☼☼☼

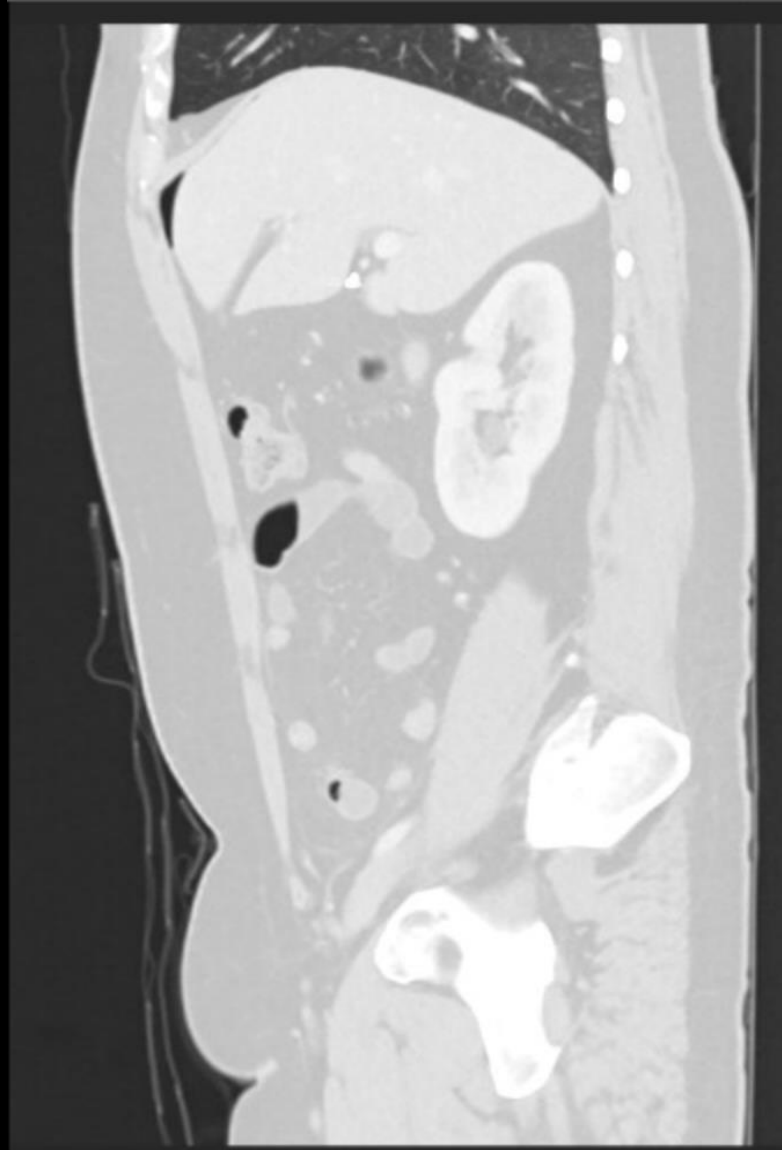
This imaging modality was ordered by the ER physician

Findings CT Coronal View (unlabeled)

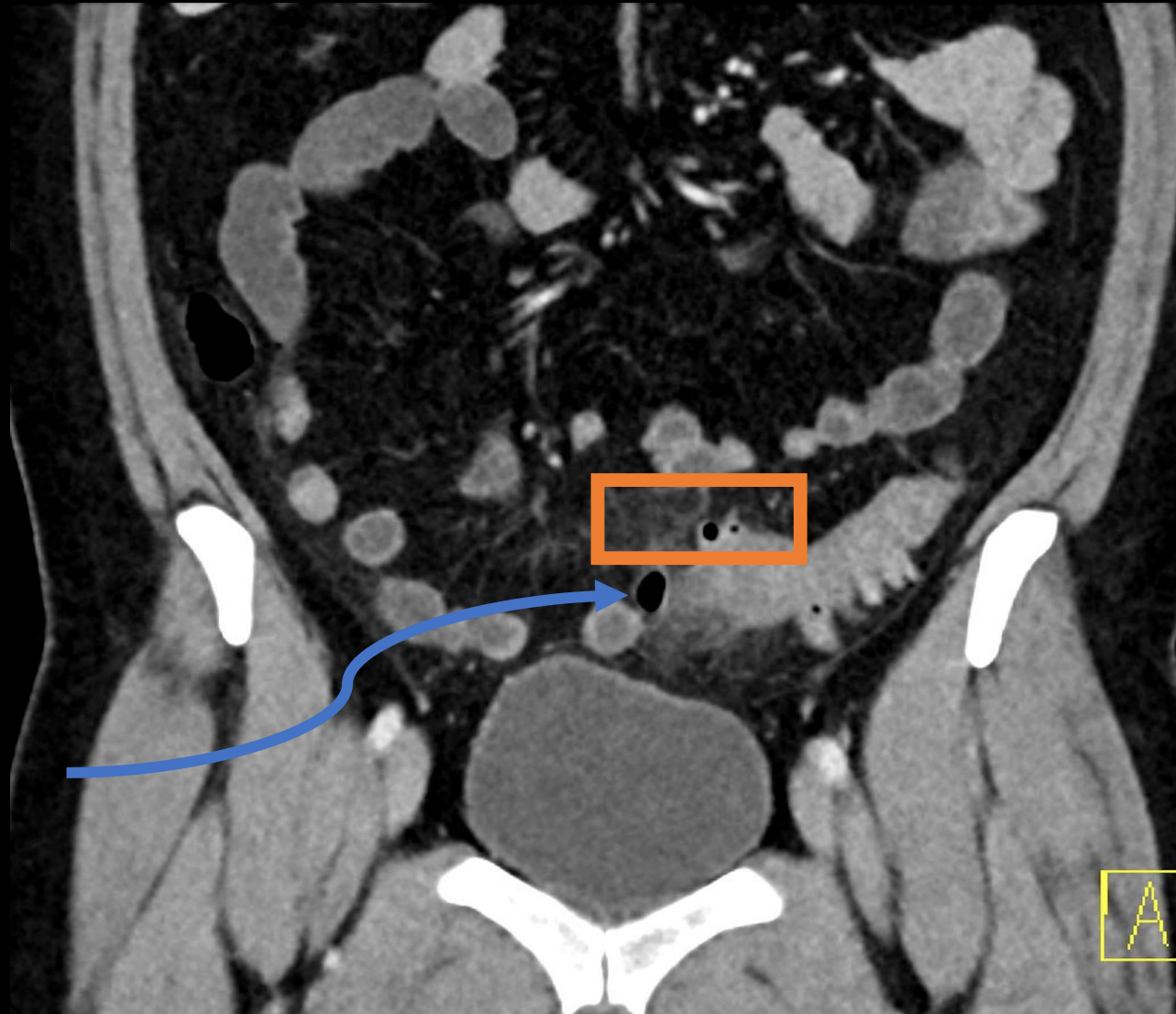


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Findings CT Sagittal View Lung Window (unlabeled)



Findings CT Coronal View: (labeled)



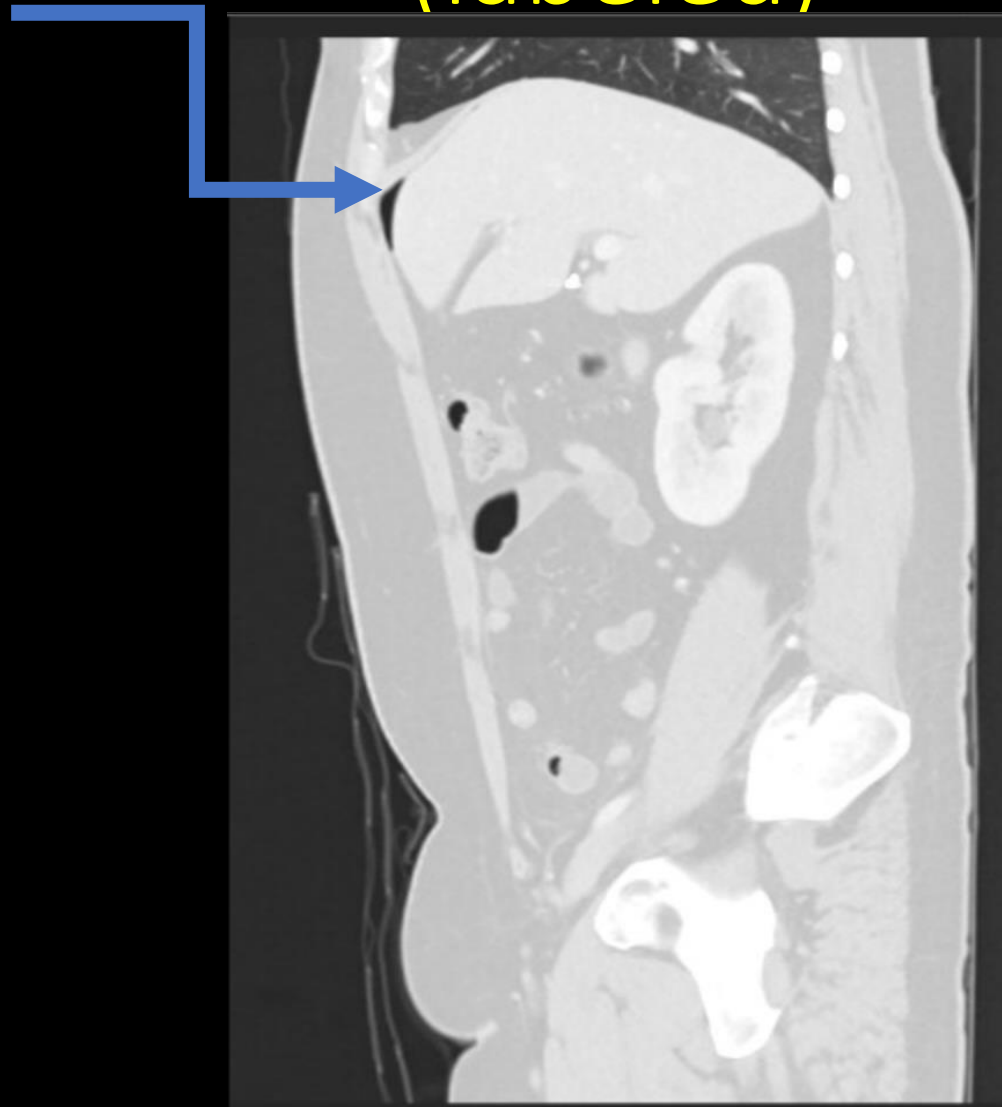
Proximal to mid sigmoid colon with associated fat stranding and locules of free air

Hazy fat with adjacent diverticula = orange rectangle

Free air = blue arrow

Findings CT Sagittal View Lung Window: (labeled)

Extraluminal air, as evidenced by the low attenuation material anterior to the liver (blue arrow) on the sagittal CT scan, is consistent with **pneumoperitoneum** from perforation of the sigmoid colon



Final Dx:

Perforated Diverticulitis

Case Discussion

- **Epidemiology / Risk Factors / Pathogenesis**
 - Diverticulosis increases with age (50% > 60 years of age) with underlying poor nutritional habits. Perforation rate in an acute setting is 10%
 - Perforation influenced by:
 - High Fever (>38.5 degrees Celsius)
 - Left colon involvement in older patients
 - Right sided colon perforation was found in younger patients (40-60 years old)
 - Delayed diagnosis

Case Discussion

- **Clinical features**

- Persistent pain in lower abdomen
- High fever
- Tachycardia
- Arterial hypotension
- Confusion

Case Discussion

- **Diagnosis/Imaging**

- CT is imaging of choice

- Perforation is classified by the dimensions of the abscess
- Can detect paracolic fluid collection / intra-abdominal air which may indicate acute surgery
- Hinchey Classification
 - Stage 1: Pericolic abscess or phlegmon
 - Stage 2: pelvic / intra-abdominal/retroperitoneal abscess
 - Stage 3: Generalized purulent peritonitis
 - Stage 4: Generalized fecal peritonitis

Case Discussion

- **Management of perforated diverticulitis**

- Operative

- Contained abscess = drain
 - Purulent peritonitis or feculent peritonitis = Hartmann procedure

- Non-Operative

- Contained perforation are treated with 7-10 days antibiotics and low residue diet
 - Most see resolution in 2-3 days, follow up with CT

- **Prevention**

- Asymptomatic diverticulosis

- High fiber and vegetarian diet

- Uncomplicated diverticulitis

- Giving fluids may be enough for patient with out other risk factor

References:

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