AMSER Case of the Month August 2025

72-year-old female with nausea, vomiting, and abdominal distension

Calvin Nguyen, MS1

Adam Trusty, M.D.

Jill Bruno, D.O.

Virginia Commonwealth University School of Medicine

Patient Presentation

- HPI
  - 72 year-old female presents with nausea, vomiting, and abdominal distention. She previously visited the ED for these issues, but was not imaged at the time. She returned due to her continued symptoms with inability to tolerate oral intake, severe dehydration, and acute kidney injury.
- Physical Exam:
  - Impressive abdominal distension. Non-tender in groin.
- Labs:
  - High Hemoglobin (15.9)
  - Low Na (130)
  - High Creatinine (3.56)

What Imaging Should We Order?

ACR Appropriateness Criteria

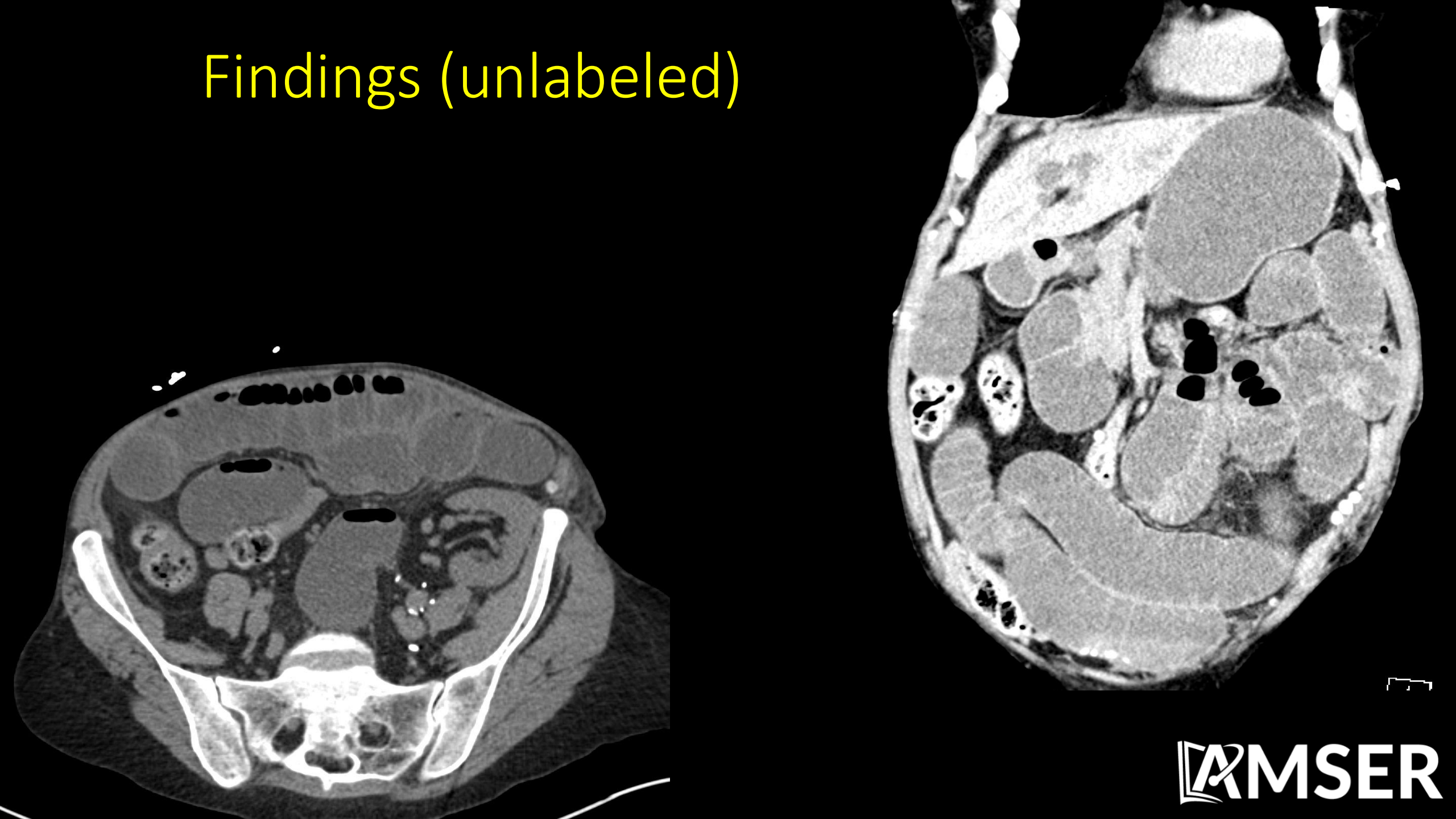
Variant 4: **Acute nonlocalized abdominal pain. Not otherwise specified. Initial imaging.**

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

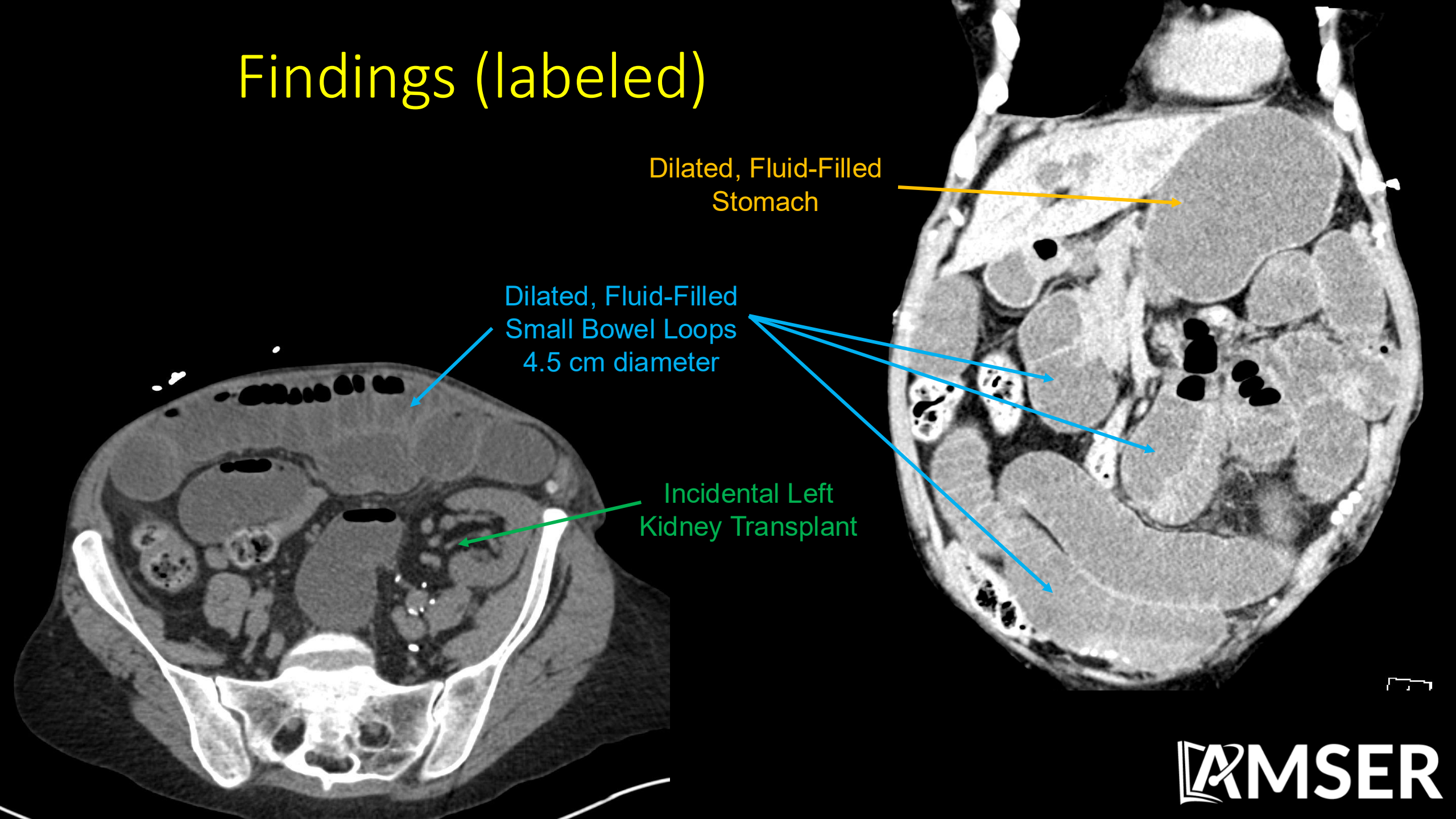
This imaging modality was ordered by the ER physician

AMSER

Findings (unlabeled)

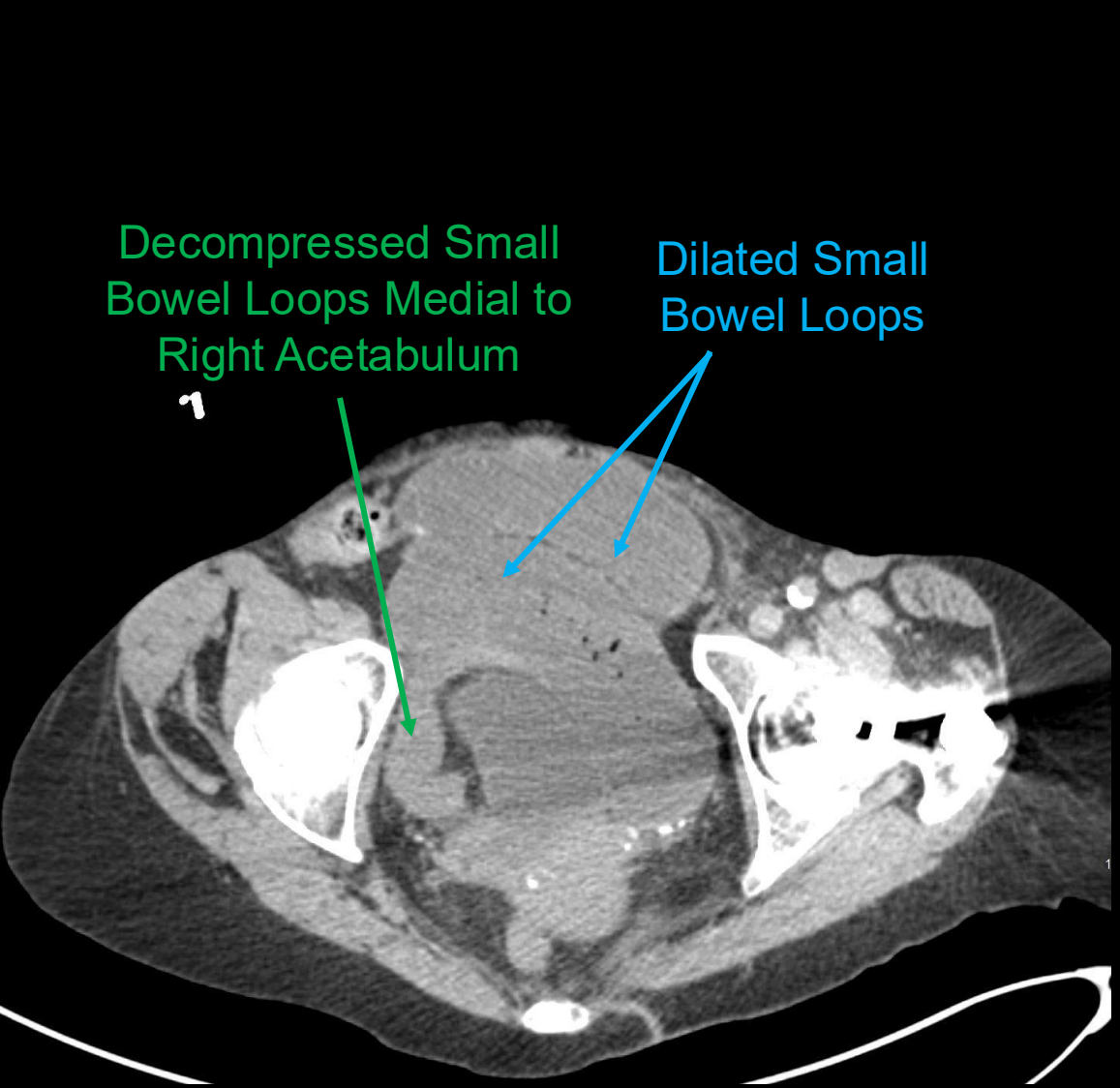


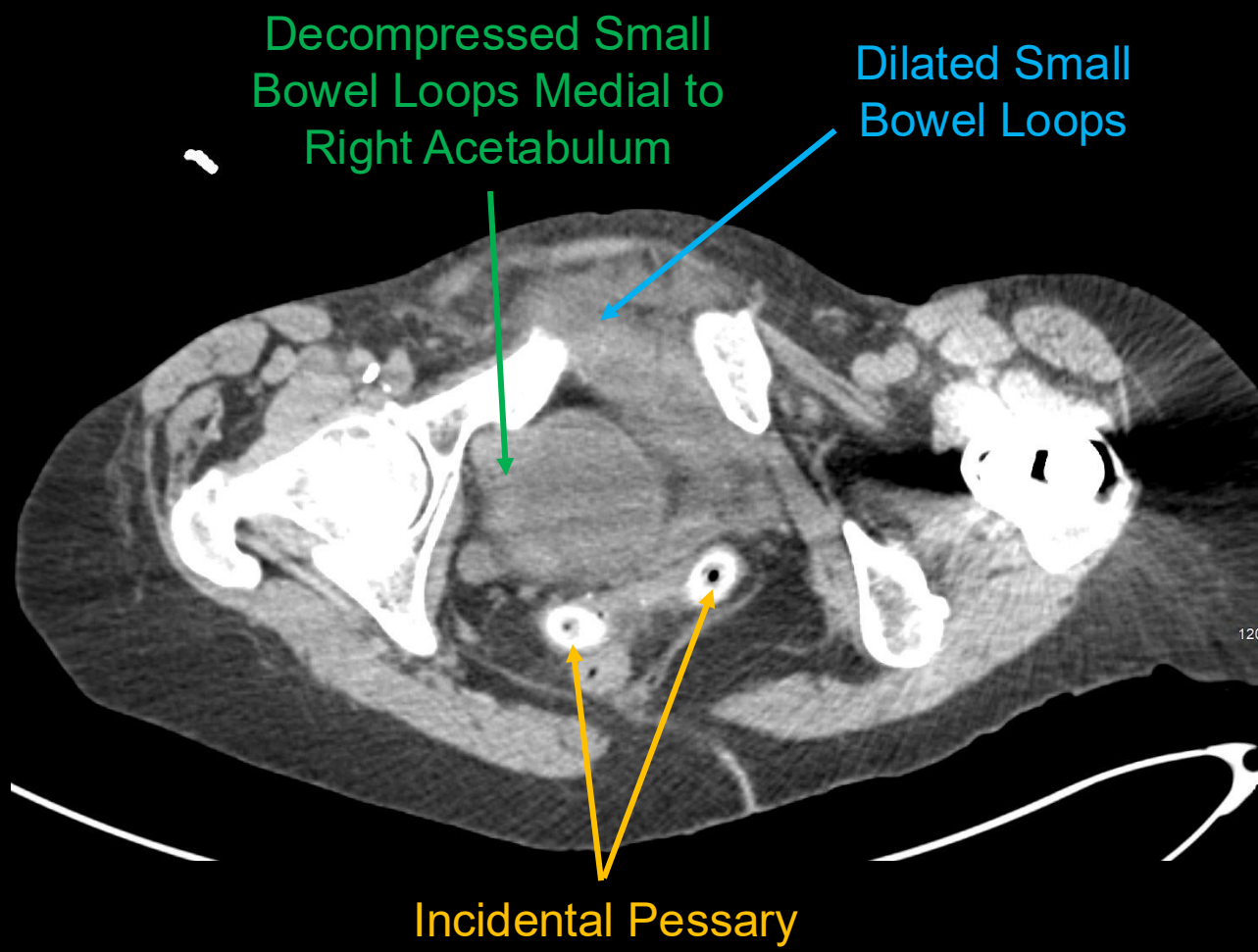
Findings (labeled)



Findings (unlabeled)

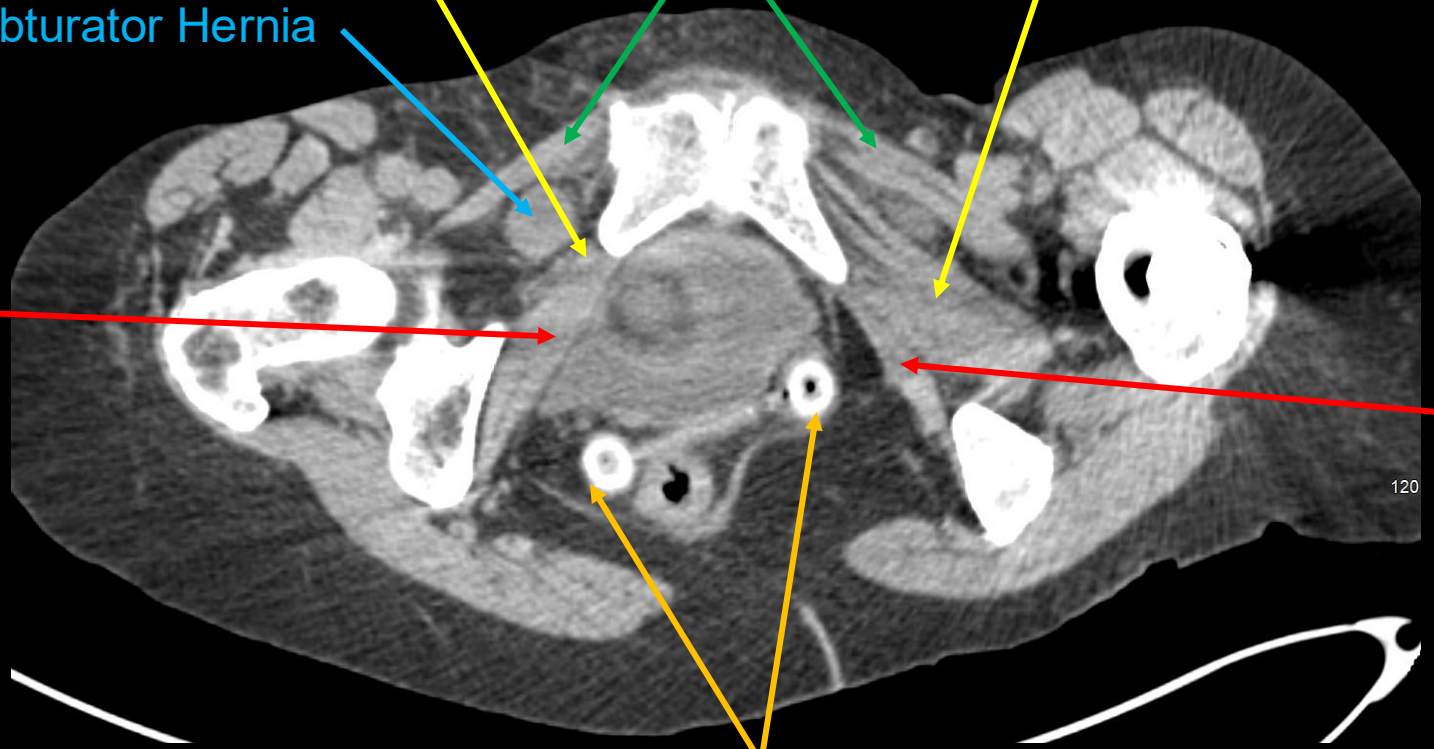
Findings (labeled)





Findings (unlabeled)

Findings (labeled)



Final Dx:

Small Bowel Obstruction
secondary to
Obturator Hernia

Case Discussion

- Background
  - Obturator hernia is a rare form of hernia in which bowel herniates between the pectineus and obturator muscles.
  - The obturator foramen is covered by the obturator membrane, which is pierced by a neurovascular bundle via the obturator canal. Weakening of the pelvic floor allows for bowel to herniate into the obturator canal.
- Epidemiology
  - Obturator hernias are rare, forming 0.4% - 2.0% of all hernias.
  - Obturator hernias are nine times more common in women than in men. The female obturator canal is wider transversely as compared to males.
  - Older age and multiparity can increase the risk of obturator hernia due to structural changes and the loss of intraperitoneal fat.
  - Factors that increase intra-abdominal pressure (constipation, ascites, COPD) may increase the risk of obturator hernias.
  - Obturator hernias are more common on the right, as the sigmoid covers the obturator canal on the left.

Case Discussion

- Clinical Presentation
  - Diagnosis is challenging due to non-specific symptoms. Patients may present with acute/intermittent bowel obstruction, abdominal pain, nausea, vomiting, and obturator neuralgia from nerve compression.
  - Howship-Romberg Sign
    - Pain in the medial thigh. Relieved with hip flexion, and aggravated with hip extension, adduction, and medial rotation. Present in 15-50%, but often overlooked due to confusion with other associated disorders (arthritis)
  - Hannington-Kiff Sign
    - Absent adductor reflex in the thigh. More specific than the Howship-Romberg sign, but can be difficult to elicit.
  - Obturator hernias carry a high mortality rate, estimated between 13% - 40%.
- Imaging Findings
  - Obturator hernias may be detected with CT, MRI, or US. CT abdomen and pelvis, due to speed and accessibility, is the study of choice for suspected small bowel obstruction and will readily demonstrate an obturator hernia. CT with IV contrast is preferred. However, an unenhanced CT abdomen and pelvis can be performed in patients who cannot receive IV contrast.
  - Imaging will demonstrate fluid and/or bowel traversing the obturator foramen and associated small bowel obstruction.

Case Discussion

- Management
  - Treatment is necessary due to risk of bowel strangulation and unlikely chance of non-surgical hernia reduction. Delays in intervention are common due to nonspecific symptoms, delayed presentation, and comorbidities often present with advanced age.
  - Laparoscopic procedures are preferred vs. open surgery.
    - Minimally invasive, reduction of postoperative complications.
    - Transabdominal preperitoneal approaches allow for clear visualization of the hernia.
  - In summary, management should focus on rapid evaluation and early operative intervention.

References:

1. Burla, M.M., Gomes, C.P., Calvi, I. *et al.* Management and outcomes of obturator hernias: a systematic review and meta-analysis. *Hernia* 27, 795–806 (2023). https://doi.org/10.1007/s10029-023-02808-w
2. Gaillard F, Saber M, Elfeky M, et al. Obturator hernia. Reference article, Radiopaedia.org (Accessed on 04 Apr 2025) https://doi.org/10.53347/rID-7111
3. Mahendran B, Lopez PP. Obturator Hernia. [Updated 2023 Jan 30]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK554529/
4. Park, Jinyoung MD, PhD. Obturator hernia: Clinical analysis of 11 patients and review of the literature. Medicine 99(34):p e21701, August 21, 2020. | DOI: 10.1097/MD.0000000000021701
5. Petrie A, Tubbs RS, Matusz P, Shaffer K, Loukas M. Obturator hernia: anatomy, embryology, diagnosis, and treatment. Clin Anat. 2011 Jul;24(5):562-9. doi: 10.1002/ca.21097. Epub 2011 Feb 14. PMID: 21322061.

AMSER