AMSER Case of the Month
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85 year old male with abdominal pain

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85 year old African American male

CC: Nausea/vomiting of roughly 1 week duration with worsening lethargy and tachypnea
- 2 days prior to presentation was discharged from the ED for nausea/vomiting attributed to lamotrigine prescription

PMHx: PE, hypertension, hyperlipidemia, dementia, coronary artery disease, BPH, bundle branch block

PSHx: Right inguinal hernia repair in 2012

FamHx: Stroke in sister and brother

Medications: docusate, risperidone, mirtazapine, melatonin, lidocaine, finasteride, ergocalciferol, doxazosin, cyanocobalamin, atenolol, aspirin, acetaminophen

Social Hx: Former smoker quit in 1970, lives in nursing facility currently.

Allergies: Lisinopril

Vitals: BP 150/100 P 92 T 36.7 R 20 Pulse ox 92% BMI 20.5

Physical Exam: Pertinent findings included tachypnea, and a large protruding scrotum with intestinal contents palpated on the left.

Labs: Non-contributory
Which imaging should we order?
# ACR Appropriateness Criteria

## Table 1. Suspected complete or high-grade partial small-bowel obstruction

<table>
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<tr>
<th>Radiologic Procedure</th>
<th>Appropriateness</th>
<th>Comments</th>
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<td>CT, abdomen and pelvis without oral contrast, with IV contrast</td>
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<td>Imaging initially ordered by the ED</td>
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<td>X-ray, supine and upright abdomen</td>
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<tr>
<td>CT, abdomen and pelvis with oral water-soluble contrast, with IV contrast</td>
<td>5</td>
<td>Positive contrast in the bowel can obscure the cause of the obstruction and enhancement of the mucosal bowel lumen.</td>
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<tr>
<td>CT, abdomen and pelvis with oral dilute barium contrast, with IV contrast</td>
<td>5</td>
<td>Positive contrast in the bowel can obscure the cause of the obstruction and enhancement of the mucosal bowel lumen.</td>
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<td>CT, enterography with IV and water or water-density contrast</td>
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<tr>
<td>CT, enteroclysis</td>
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<td>X-ray, small-bowel follow-through</td>
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<tr>
<td>X-ray, small-bowel enteroclysis</td>
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<td>MRI, abdomen</td>
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<td>Ultrasound, abdomen</td>
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Note: *Appropriateness Criteria® scale*: 1 = least appropriate; 9 = most appropriate. CT = computed tomography; IV = intravenous; MRI = magnetic resonance imaging.
Findings on Axial CT slices?
Arrows point to dilated loops of small bowel in the mid abdomen.
Key:

*** : Dilated small bowel loops

S: Dilated stomach

H: Hernia sac

: Fecalization of small bowel
Sagittal CT shows the neck of the hernia sac (arrows) containing small bowel loops.
What are some other causes of small bowel obstruction?
Small Bowel Obstruction Etiology Ddx

- AAlIIMM Mnemonic
  - Adhesions (most common cause 65-75%)
  - Appendicitis
  - Inguinal Hernia (this case)
  - Intussusception
  - Malrotation
  - Meckel’s Diverticulum
SBO

Signs/symptoms: Nausea/vomiting (60-80%), Constipation/Absence of flatus (80-90%), Distention (60%), Fever/tachycardia

Risk Factors: Previous surgery, radiation or both. Hx of malignancy, or IBD

Pathophysiology:
Dilation → Fluid excess → Inc. bowel pressure → Third spacing of fluid
Pathophysiology continued..

- The bowel becomes dilated due to excess fluids and air. Cell secretory activity increases.
- Peristalsis increases above and below the obstruction. Results in increased pressure on the bowel wall.
- Wall lymphedema results in massive third spacing of fluid, electrolytes and protein into the lumen.
- In the case of strangulation, the mesenteric pedicle becomes twisted, causing arterial occlusion and resultant ischemia. Most commonly caused by adhesions.
Treatment

- **Acute surgical** care was utilized with this patient.

- **Laparoscopy** is shown to be safe and effective.

- **Non-operative care** would be indicated in absence of strangulation and with an inguinal hernia, manual reduction and observation can be attempted.

- Additional treatment includes aggressive IV **fluid** resuscitation, **oxygen**, **telemetry**, **antibiotic** coverage of gram neg/anaerobic, **analgesia** and **antiemetics**
References

