AMSER Case of the Month
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59-year-old male with acute onset nausea and vomiting

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Patient Presentation

- **HPI:** 59-year-old male with 3-day history of intractable nausea and non-bloody, non-bilious vomiting. Pt also with hx of skin thickening, joint pain, and weight loss.

- **PMHx:** GERD and iron deficiency anemia

- **Surg Hx:** Prostate cancer s/p prostatectomy (7 years prior), remote hx of appendectomy.

- **Medications:** Baclofen, Ferrous sulfate, Ondansetron, Pantoprazole, Prednisone, Prochlorperazine, Rifaximin

- **Vitals:** BP 127/78, HR 129, SpO2 96% on RA, T 36.5 C

- **Relevant labs:**
  - BMP: wnl
  - CBC: WBC 25.9, Hgb 13.1, Plt 601
  - Lactate 3.8
What Imaging Should We Order?
### ACR Appropriateness Criteria

#### Variant 1:

**Suspected small-bowel obstruction. Acute presentation. Initial imaging.**

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>Relative Radiation Level</th>
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<tbody>
<tr>
<td>CT abdomen and pelvis with IV contrast</td>
<td>Usually Appropriate</td>
<td>🌋☀️☀️</td>
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<tr>
<td>CT abdomen and pelvis without IV contrast</td>
<td>May Be Appropriate</td>
<td>🌋☀️☀️</td>
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<tr>
<td>MRI abdomen and pelvis without and with IV contrast</td>
<td>May Be Appropriate</td>
<td>🌋☀️☀️</td>
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<tr>
<td>Radiography abdomen and pelvis</td>
<td>May Be Appropriate (Disagreement)</td>
<td>🌋☀️☀️</td>
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<td>Fluoroscopy small bowel follow-through</td>
<td>May Be Appropriate</td>
<td>🌋☀️☀️</td>
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<td>CT abdomen and pelvis without and with IV contrast</td>
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<tr>
<td>CT enteroclysis</td>
<td>Usually Not Appropriate</td>
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<td>CT enterography</td>
<td>Usually Not Appropriate</td>
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<td>MR enterography</td>
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<td>US abdomen and pelvis</td>
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CT A/P w/ contrast completed.
CT Findings: Unlabeled
CT Findings: Labeled

Distal esophageal thickening

“Hide-bound” sign

Apparent thickening of small bowel wall

Small bowel diffusely dilated w/o definite transition point
Final diagnosis:

Scleroderma
Case Discussion: Systemic Scleroderma

• Major disease subsets:
  • Limited cutaneous systemic sclerosis (CREST syndrome)
    • Calcinosis cutis, Raynaud’s phenomenon, Esophageal Dysmotility, Sclerodactyly, Telangiectasia
  • Diffuse cutaneous systemic sclerosis
    • Greater risk of respiratory, cardiac, and renal manifestations, with faster disease progression and increased morbidity and mortality

• Pathophysiology
  • Pathogenesis remains incompletely understood
  • Immune activation, vascular damage, and excessive synthesis of extracellular matrix with deposition of collagen contribute
Case Discussion: Systemic Scleroderma

• Examples of Radiologic Manifestations

- Esophageal dilatation and dysmotility
- Pulmonary fibrosis
- Hide-bound sign (pathognomonic)
- Calcinosus cutis
Case Discussion: Systemic Scleroderma

Diagnosis:
• Characteristic physical exam findings
• Laboratory testing
  • CBC w/ diff, serum creatinine, CK, urinalysis
  • ANA, Anti-centromere, Anti-topoisomerase I (Anti-Scl-70), Anti-RNA Polymerase III
• Imaging
  • High Resolution Computed Tomography (HRCT)

Prognosis:
• Substantial increase in mortality
• Most deaths related to pulmonary fibrosis, pulmonary arterial hypertension, or cardiac causes
References


