AMSER Case of the Month
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67-year-old female with fall at home

David Stern MS3
University of Michigan Medical School

Dr. Elizabeth Lee MD
University of Michigan
Patient Presentation

- **HPI:** 67-year-old female tripped over a rug at home and fell from standing, hitting her head on the ground and chest/throat on her nightstand 11 days prior. She had headache, neck pain, dysphagia and vomiting after the fall.

- **PMHx:** meningioma, anxiety, depression, IBS, peripheral neuropathy

- **Surg Hx:** hysterectomy 2003, right ankle repair 2013

- **Pertinent Physical Exam Findings:** Febrile to 103.1 °F, tachycardic with heart rates in 120s. A&Ox3. Diffuse 4-/5 strength of right upper extremity with 3/5 right grip strength.

**Labs:**
- WBC: 46.3
- ANC: 42.2
- Hgb: 11.3
- Platelets: 77
What Imaging Should We Order?
Select the applicable ACR Appropriateness Criteria

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<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>Relative Radiation Level</th>
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<tbody>
<tr>
<td>CT chest with IV contrast</td>
<td>Usually Appropriate</td>
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<tr>
<td>CT whole body with IV contrast</td>
<td>Usually Appropriate</td>
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<td>CTA chest with IV contrast</td>
<td>Usually Appropriate</td>
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<td>Radiography trauma series</td>
<td>Usually Appropriate</td>
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<tr>
<td>CT chest without IV contrast</td>
<td>May Be Appropriate</td>
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<tr>
<td>CT whole body without IV contrast</td>
<td>May Be Appropriate</td>
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<td>US FAST scan chest abdomen pelvis</td>
<td>May Be Appropriate (Disagreement)</td>
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<td>CT chest without and with IV contrast</td>
<td>Usually Not Appropriate</td>
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<td>US chest</td>
<td>Usually Not Appropriate</td>
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<td>MRI chest without and with IV contrast</td>
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These imaging modalities were ordered by the ER physicians.
XR Findings: (labeled)

Right apical opacity with central lucency/cavitation

Prevertebral gas
CT Chest and Cervical Spine (unlabeled)
CT Chest and Cervical Spine (labeled)

Cavitary right upper lobe abnormality extending into the chest wall

Gas in the soft tissues of the neck and epidural space (arrows).

A subsequent esophagram was performed showing extravasation of oral contrast.
Final Dx:

Esophageal perforation leading to right apical lung abscess
Case Discussion

• Blunt traumatic esophageal injury is rare³
• Patients may present with neck pain and dysphagia
• Fever and leukocytosis can develop quickly after the initial injury
• Fluoroscopic examination with oral contrast can allow for diagnosis
  • False negative exams can occur and repeat imaging maybe needed
  • CT may also be used given its ability to detect other injuries/complications
• If not recognized and treated promptly complications may develop including³:
  • Medistinitis
  • Pneumonia/lung abscess
  • Spread of infection to other adjacent structures including the spine
    (discitis/osteomyelitis/epidural abscess)
Case Discussion

Clinical follow up: Cultures grew group C streptococcus and coagulase negative staphylococcus in addition to:

- **Actinomyces odontolyticus**
  - Gram-positive, anaerobic, bacilli found in *upper GI tract* associated with abscess formation if gains access to deep tissues

- **Porphyromonas**
  - Gram-negative, anaerobic, implicated in oral cavity respiratory tract and *gastrointestinal tract* diseases

- **Prevotella**
  - Gram-negative, anaerobic, rod often recovered from respiratory tract infections

The patient received antibiotic therapy as well as conservative management of the perforation with resolution of the abscess with a follow up CT showing mild residual scarring in the apex of the right lung.
References


