

AMSER Case of the Month

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67-year-old female with fall at home

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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

Variant 7: Major blunt trauma. Hemodynamically stable. Suspected chest trauma. Initial imaging.

Procedure	Appropriateness Category	Relative Radiation Level
CT chest with IV contrast	Usually Appropriate	☼☼☼
CT whole body with IV contrast	Usually Appropriate	☼☼☼☼
CTA chest with IV contrast	Usually Appropriate	☼☼☼
Radiography trauma series	Usually Appropriate	☼☼☼
CT chest without IV contrast	May Be Appropriate	☼☼☼
CT whole body without IV contrast	May Be Appropriate	☼☼☼☼
US FAST scan chest abdomen pelvis	May Be Appropriate (Disagreement)	○
CT chest without and with IV contrast	Usually Not Appropriate	☼☼☼
US chest	Usually Not Appropriate	○
MRI chest without and with IV contrast	Usually Not Appropriate	○
MRI chest without IV contrast	Usually Not Appropriate	○

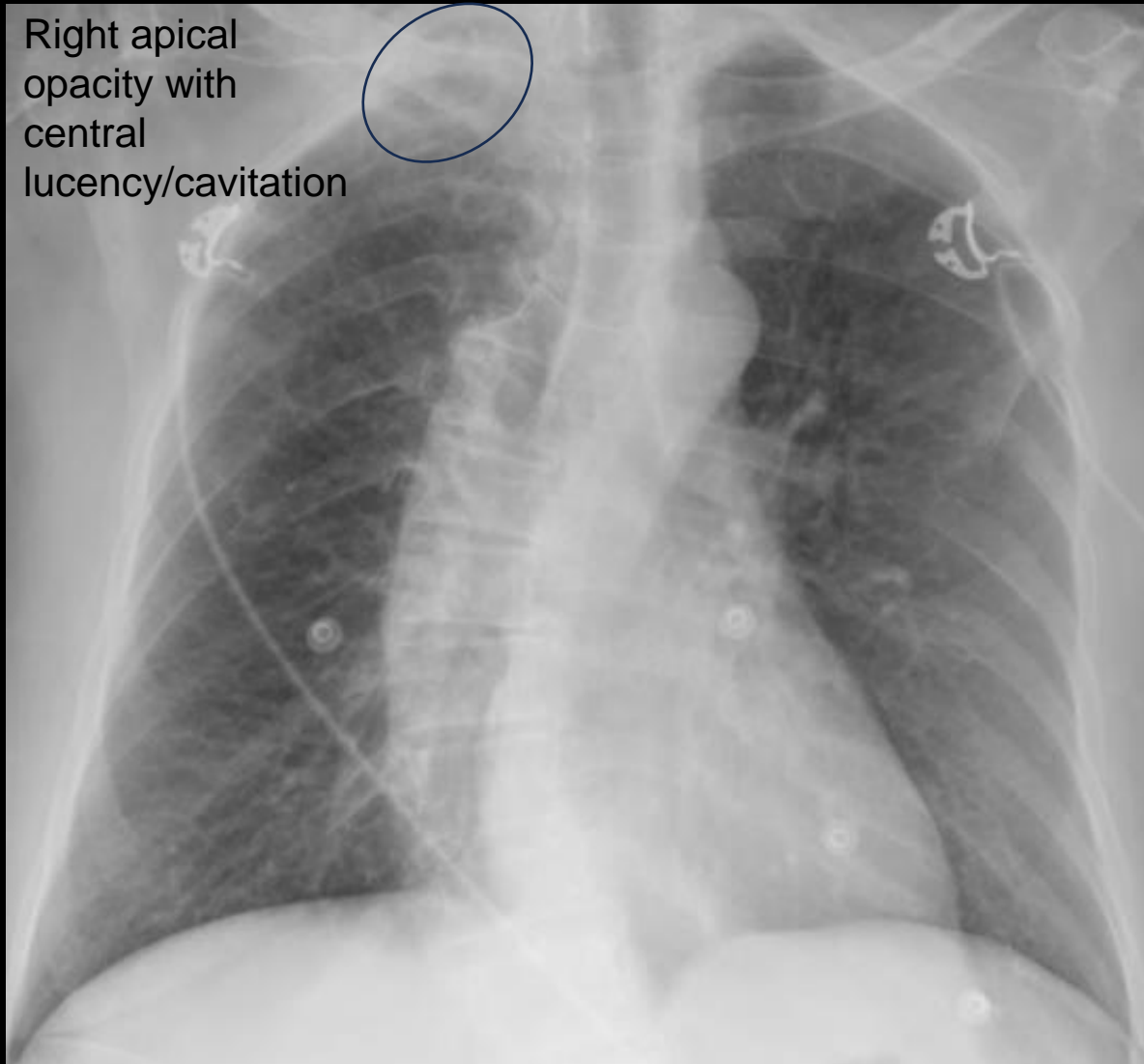


These imaging modalities were ordered by the ER physicians

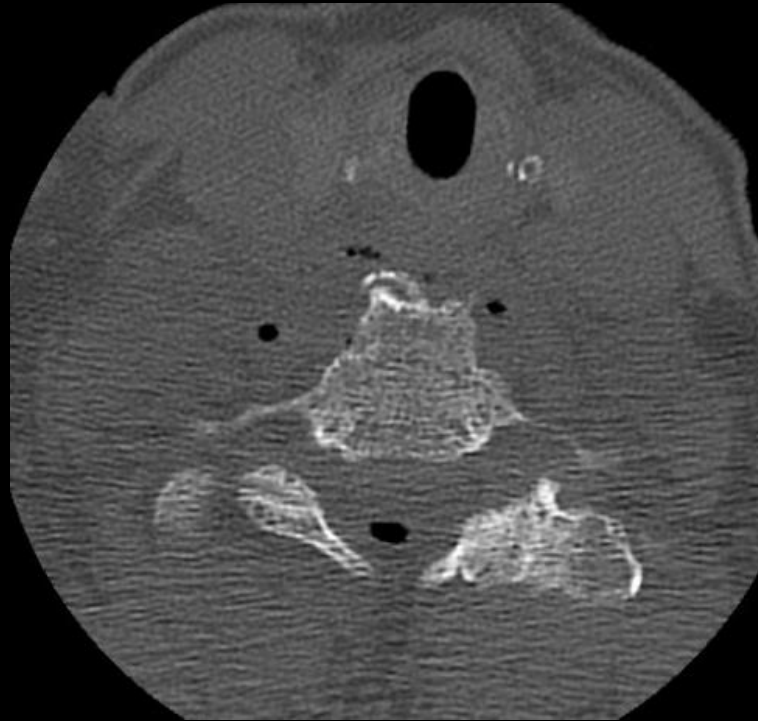
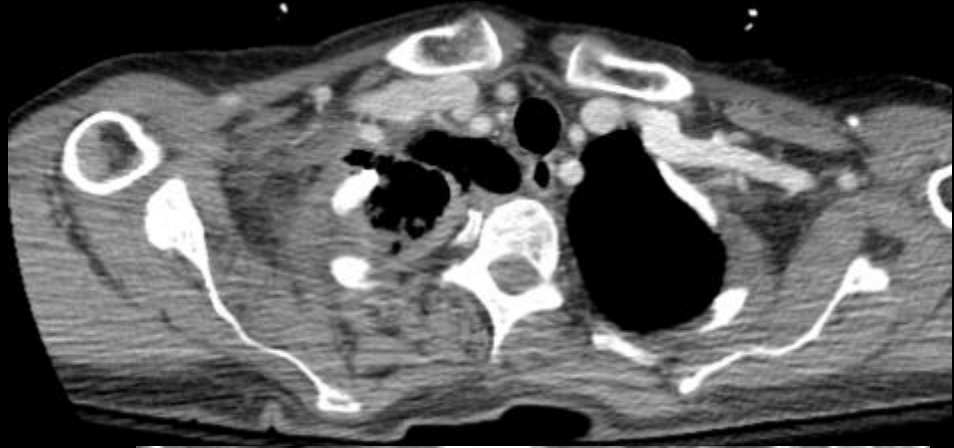
XR Findings (unlabeled)



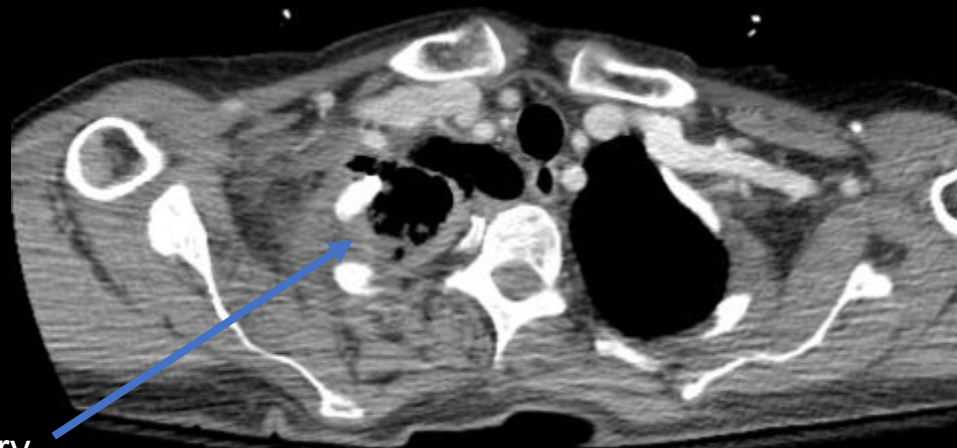
XR Findings: (labeled)



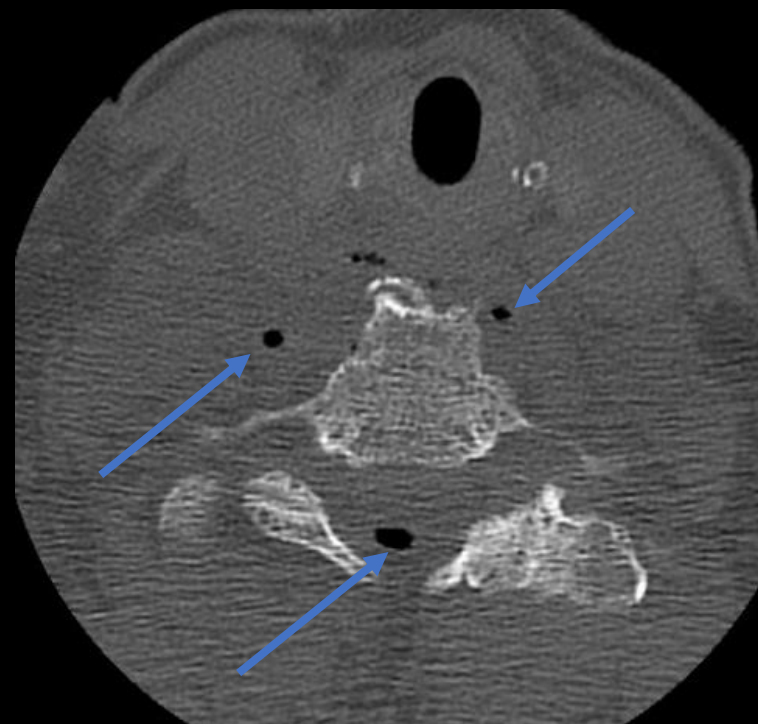
CT Chest and Cervical Spine (unlabeled)



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

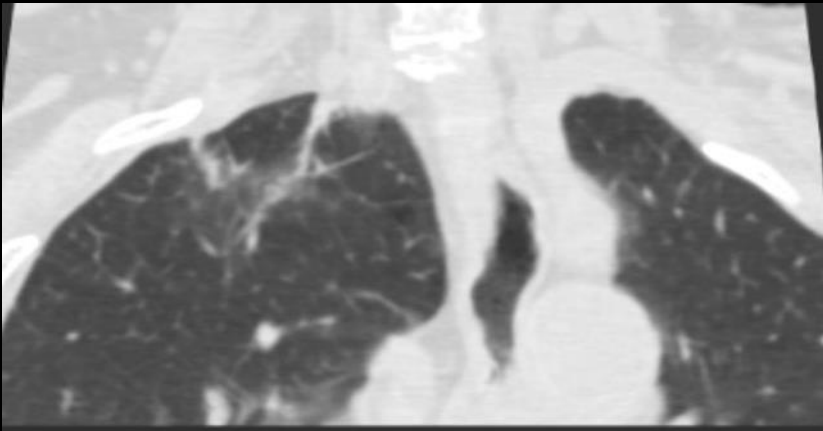
Case Discussion

- 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:
 - Mediastinitis
 - 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 tissues⁵
- **Porphyromonas**
 - Gram-negative, anaerobic, implicated in oral cavity respiratory tract and *gastrointestinal tract* diseases⁶
- **Prevotella**
 - Gram-negative, anaerobic, rod often recovered from respiratory tract infections⁶



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

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