

AMSER Rad Path Case of the Month:

50 year-old female with cough & dysphagia



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Patient Presentation

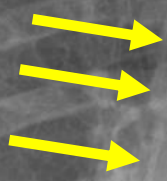
- 50 year-old female
- Cough for 1 month that is worse at night and after meals
- Dysphagia to solids
- Chest pain attributed to stress
- Omeprazole and over-the-counter antitussives were ineffective
- PMH: Lupus (not on meds), Candida esophagitis (2008, treated)
- Pertinent Labs: WBC 7, Hgb 12.8, ESR 23

Chest X-ray Findings (unlabeled)

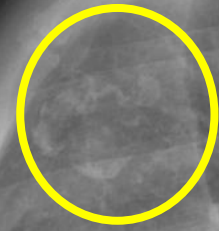
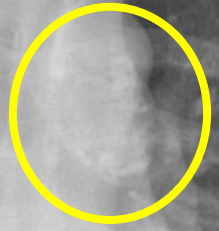


Chest X-ray Findings (labeled)

Distended gas filled esophagus



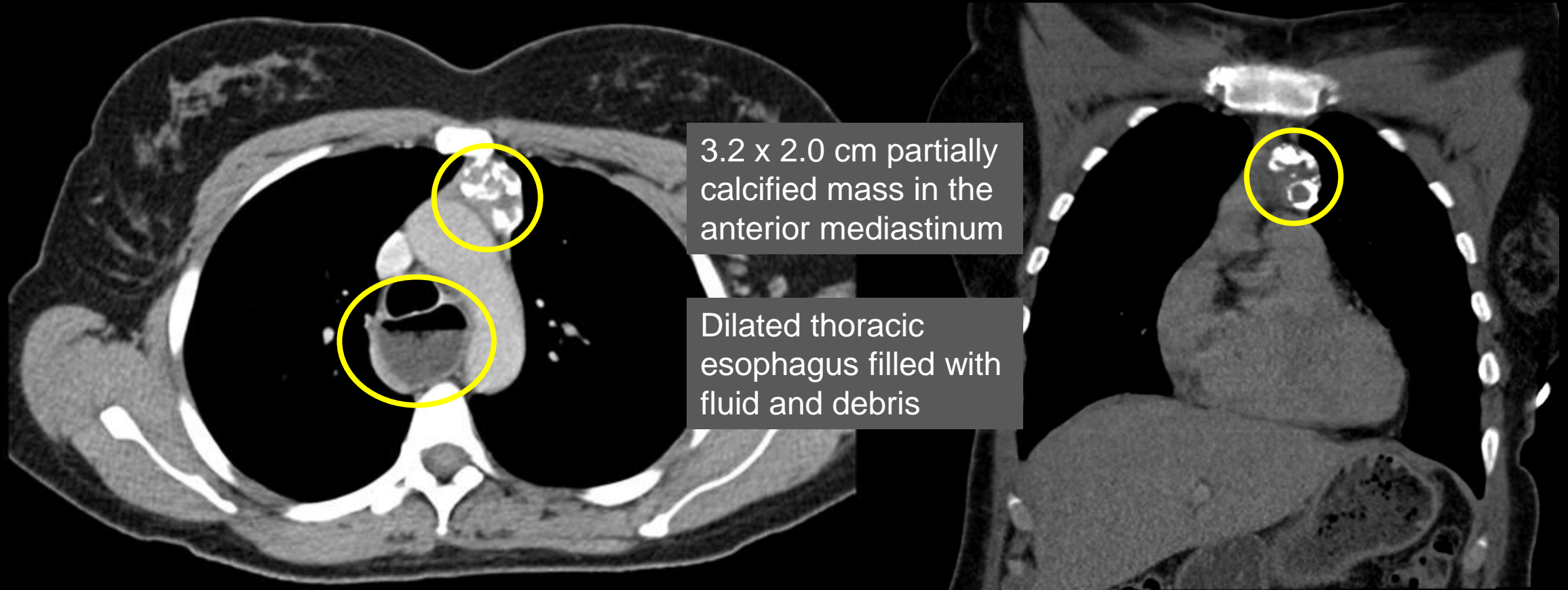
Calcified mass in the anterior mediastinum, obscuring the retrosternal clear space



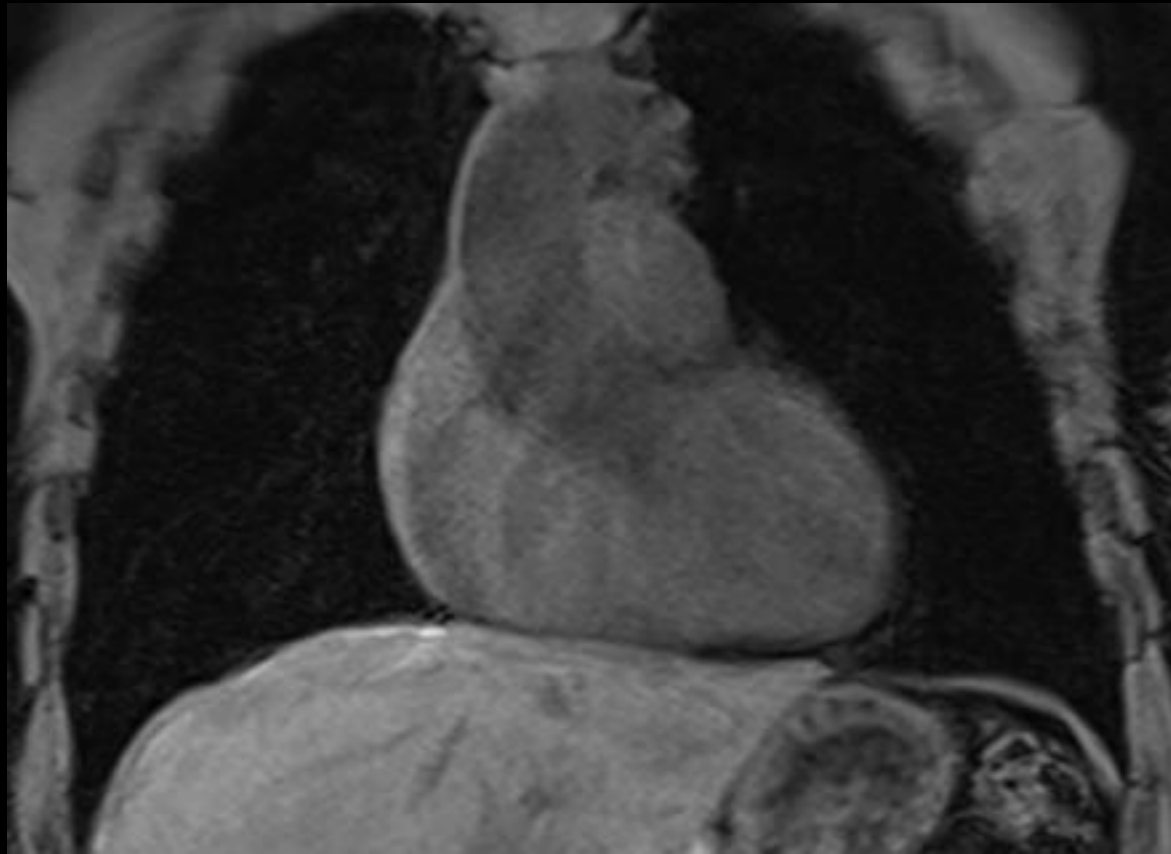
CT Findings (unlabeled)



CT Findings (unlabeled)



MR Findings (unlabeled)

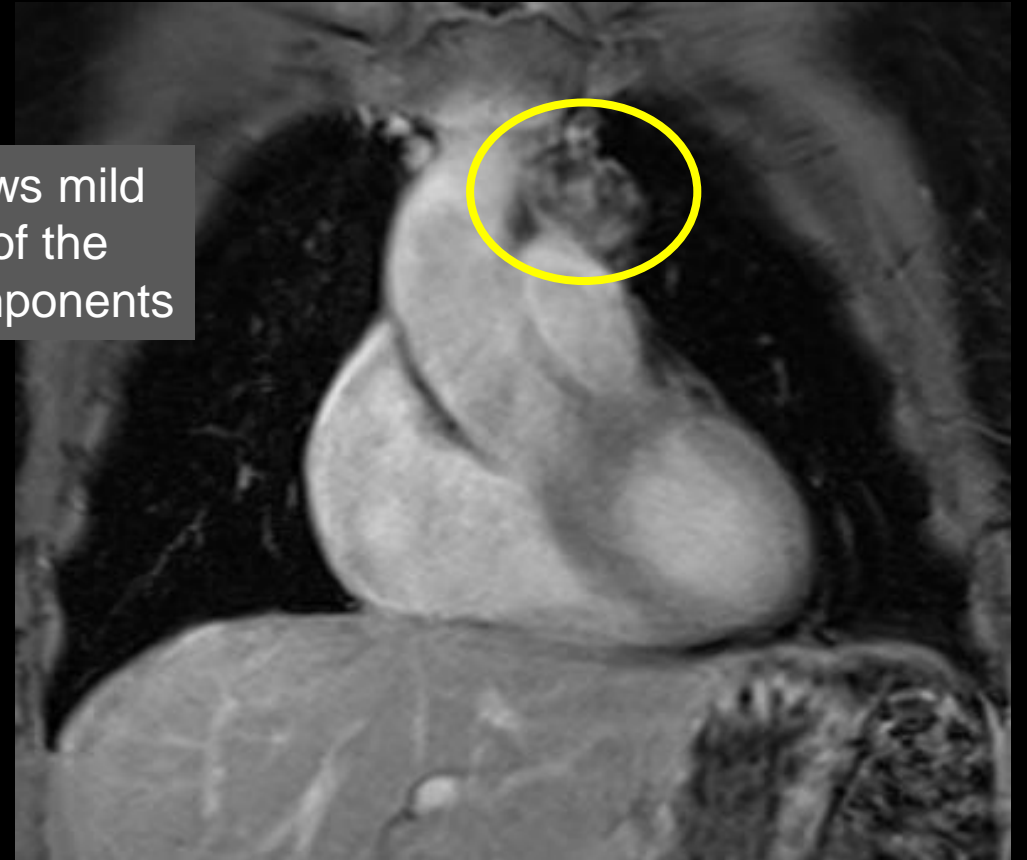


MR Findings (labeled)



T1 pre-contrast

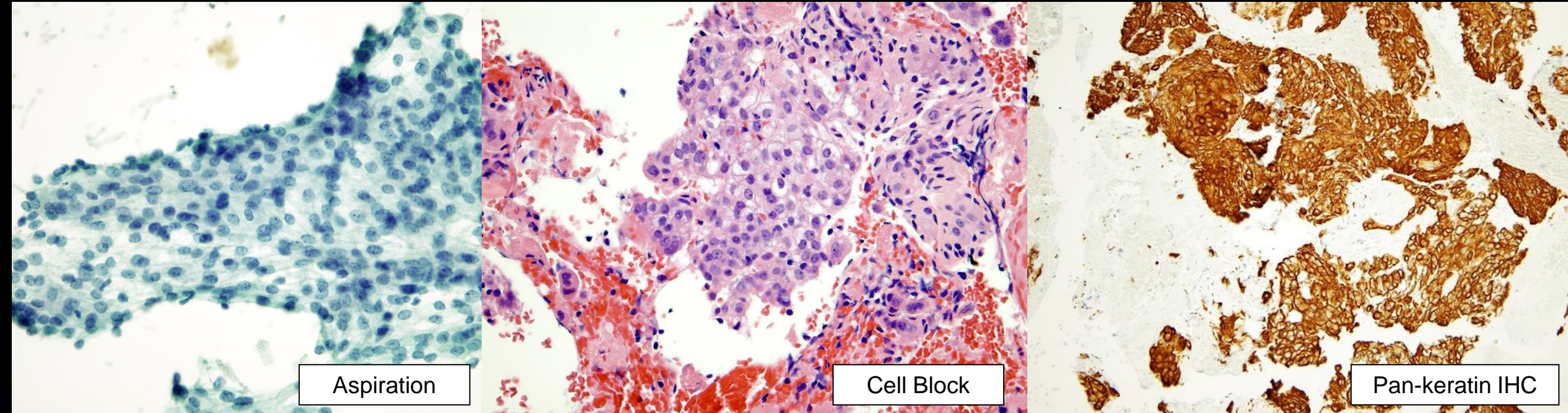
The mass shows mild enhancement of the soft tissue components



T1 post-contrast

Cytologic findings

Fine needle aspiration

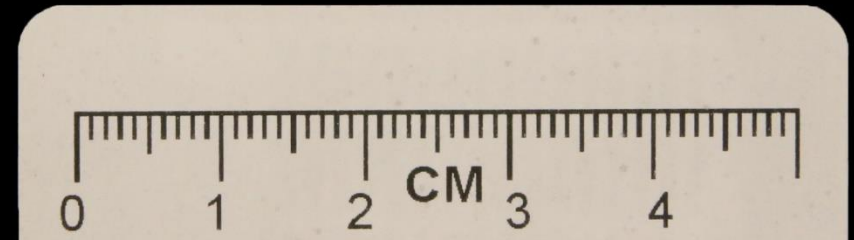
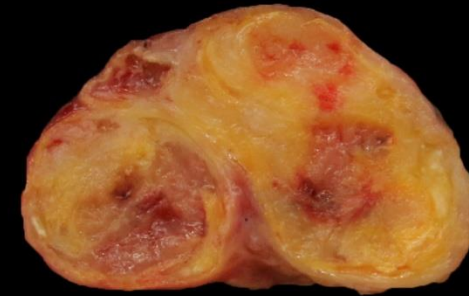
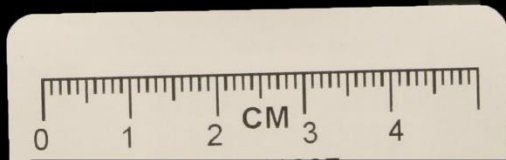


Ovoid cells with distinct borders, abundant cytoplasm, dense chromatin, and prominent nucleoli

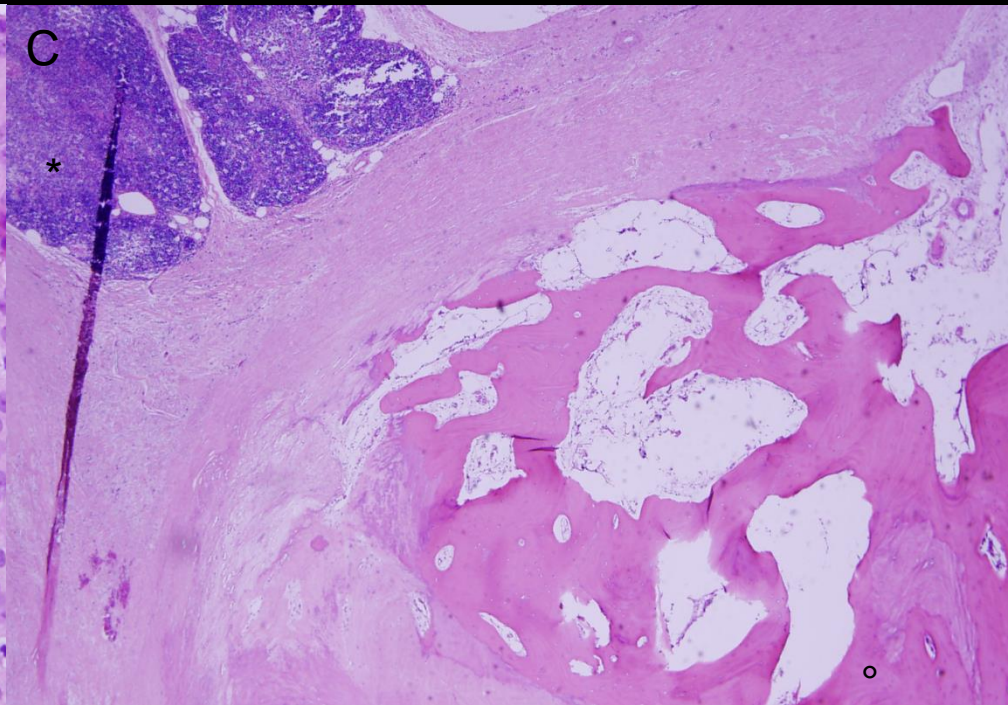
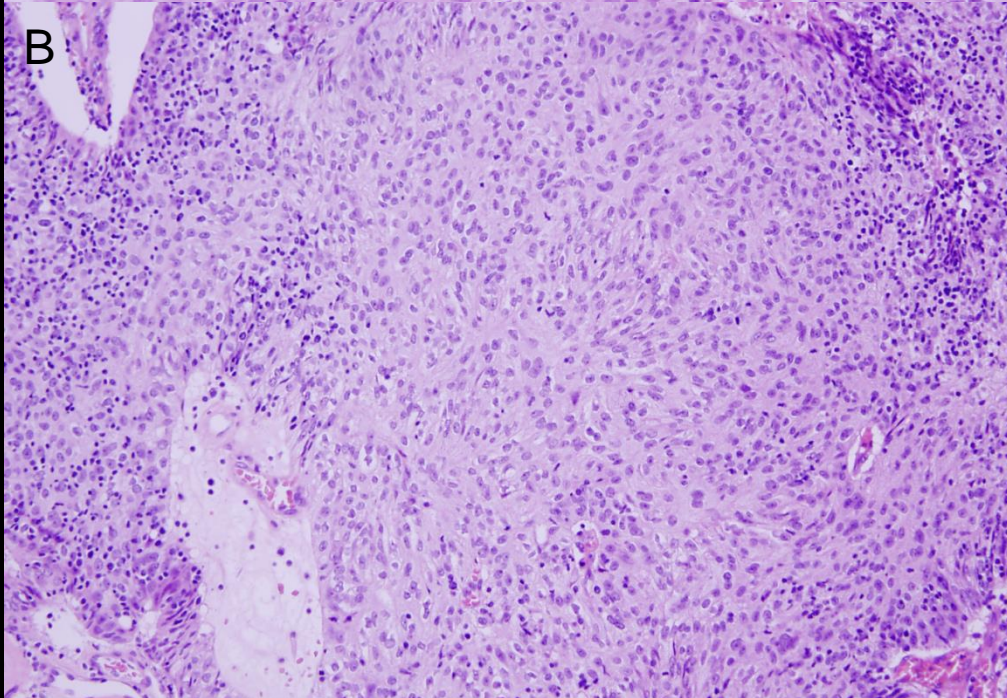
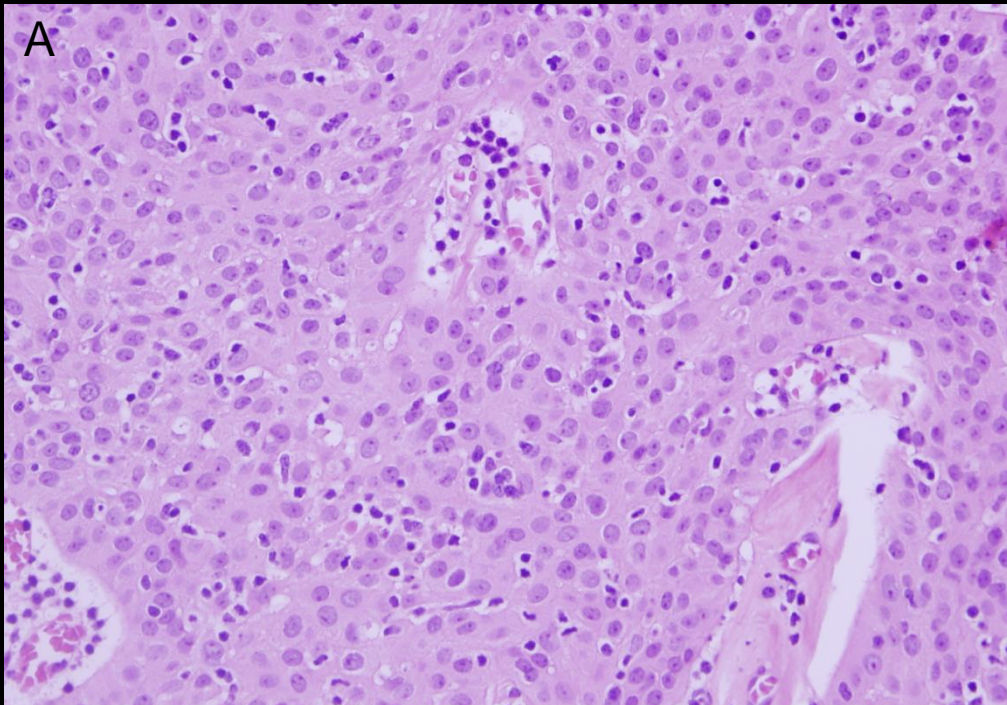
Thymic epithelial neoplasm with squamoid features and nuclear atypia, compatible with thymoma.
However, thymic carcinoma cannot be excluded- excision is necessary to assess for capsular invasion.

Gross & Histological findings

Surgical excision



Calcified multinodular mass with superficial hemorrhage. Sectioning reveals a solid, multinodular mass with a heterogeneous tan-white appearance and areas of soft, spongy tissue with a hemorrhagic appearance encapsulated within dense, lamellar, white fibrous tissue.



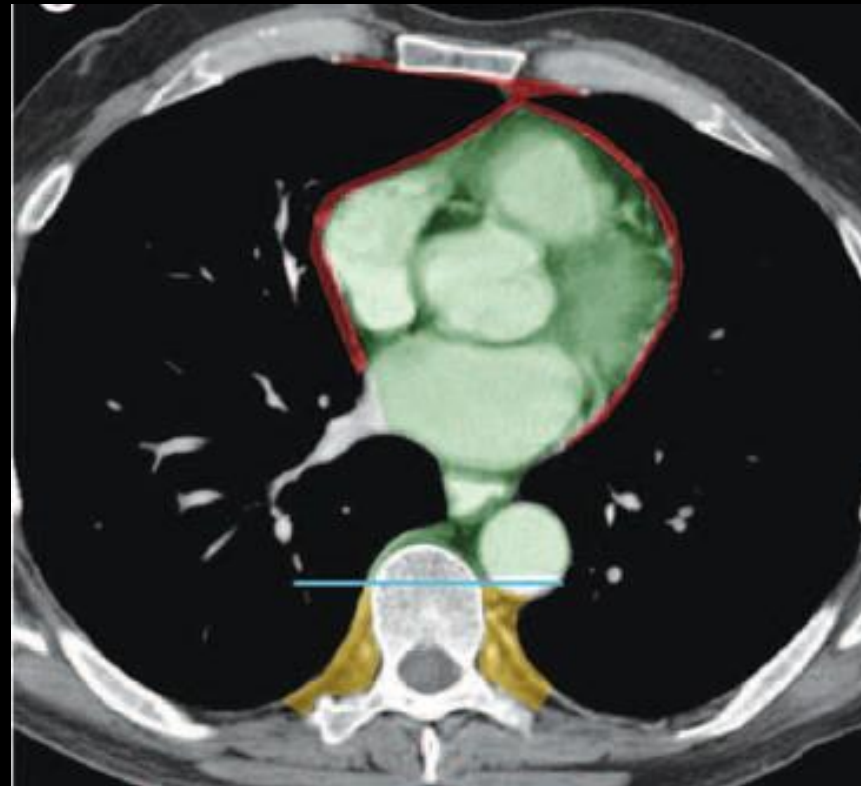
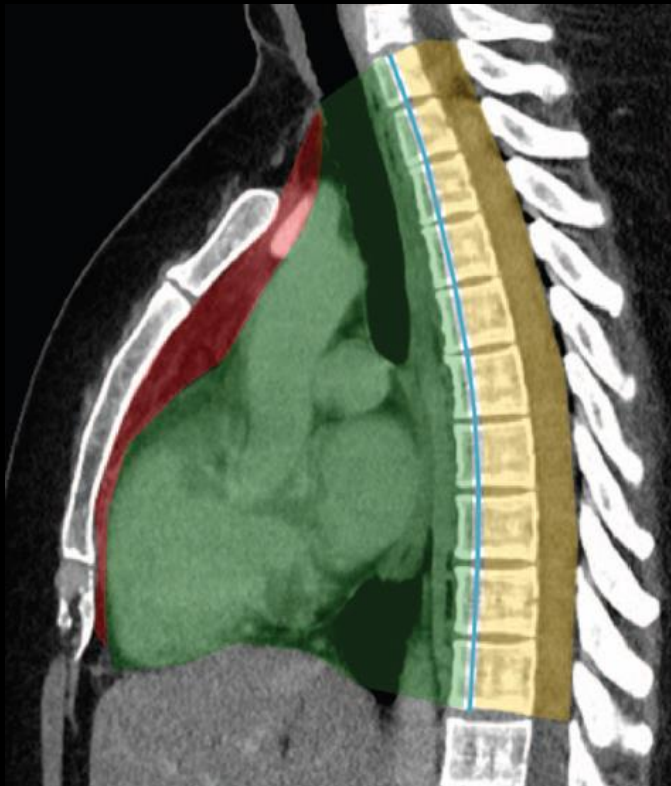
Areas of spindle-shaped (A) and large, epithelioid (round) cells (B) with admixed lymphocytes

C: Normal thymic tissue (*) and osseous metaplasia (°), correlating with calcifications seen on imaging

Final Dx:

THYMOMA, combined WHO type B2 and B3 with osseous metaplasia.
Tumor is encapsulated (modified Masaoka stage I).

Mediastinal Compartments



ITMIG Classification system:

3 Compartment Model

Prevascular (Anterior)

Visceral (Middle)

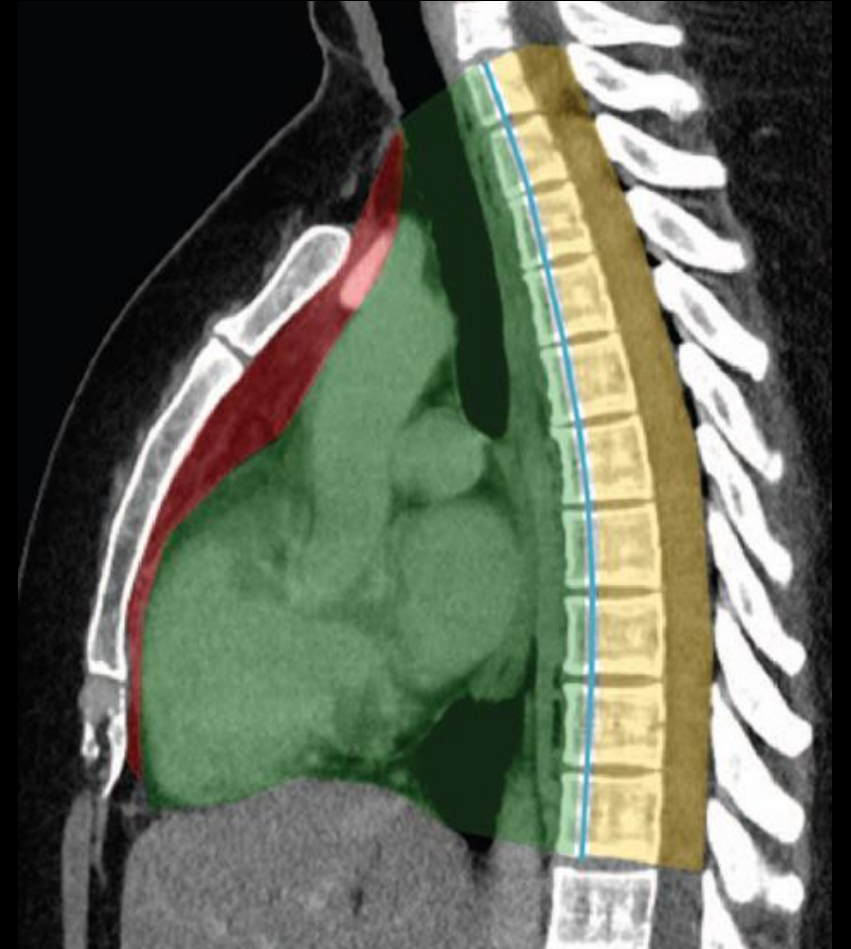
Paravertebral (Posterior)

Carter BW, Tomiyama N, Bhora F, et al. A modern definition of mediastinal compartments. J Thorac Oncol 2014 Sept;9 (Suppl2):S97-101

Differential for anterior mediastinal masses

Mnemonic: 4 T's

1. Thymus: thymoma, thymic carcinoma
2. Thyroid: goiter
3. Teratoma & germ cell tumors
4. Terrible lymphoma



Thymoma

- Presents in 5th to 6th decade of life
- Associated with autoimmune disorders
 - Commonly associated with Myasthenia Gravis
 - 15% of patients with MG have a thymoma
 - 50% of patients with thymoma have MG
 - Rarely associated with SLE (~2%)
- Classified by histology (WHO type) and degree of invasion into mediastinal fat/adjacent structures (Masaoka stage)
 - Considered thymic carcinoma if the patient presents with hematogenous metastases
- Resection is usually curative, but recurrence in 8-29%
- 5-year survival 35-85%

References

- Benveniste MFK, Rosado-de-Christenson ML, Sabloff BS, Moran CA, Swisher SG, Marom EM. Role of Imaging in the Diagnosis, Staging, and Treatment of Thymoma. Radiographics. 2011 Nov-Dec;31(7):1847-61; discussion 1861-3. <https://doi.org/10.1148/rg.317115505>
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