

Radiology Case Presentation

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10/3/19



Patient presentation

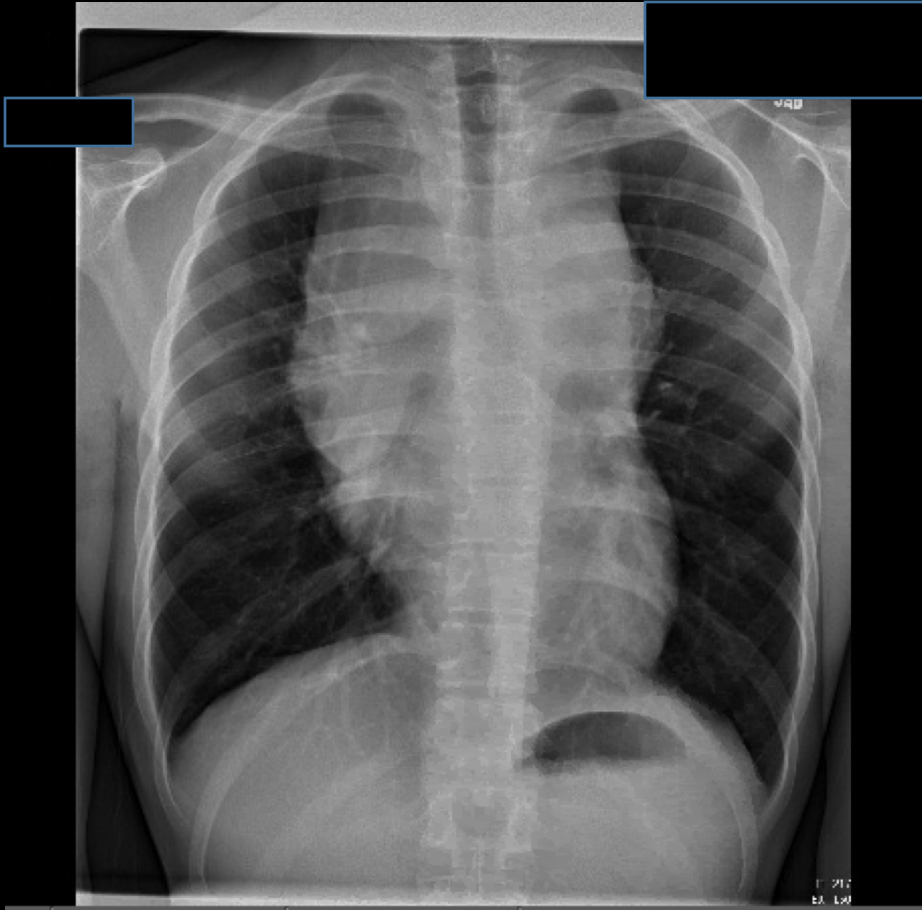
HPI:

20 year old male with no significant PMH presents with ~3 months of worsening shortness of breath, dry cough, night sweats, and chills. He notes that when lying down, his SOB worsens and he develops audible wheeze and some chest pressure. Otherwise, no chest pain. He denies fevers or weight loss. No recent travel, no known sick contacts, no history of incarceration or other TB risk factors. ROS otherwise negative.

Initially presented to PCP who diagnosed walking pneumonia and gave the patient a course of azithromycin.

Ordered CXR after symptoms did not improve.

Chest XR



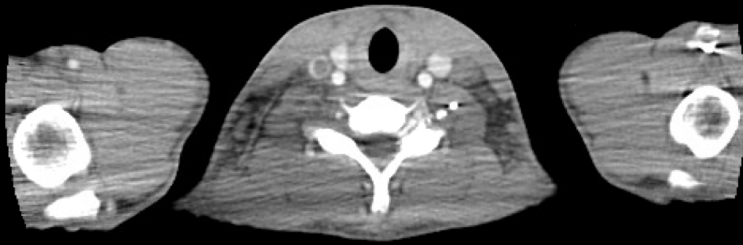
There is a **large upper mediastinal soft tissue mass** extending from the thoracic inlet to the hilar level which should be considered a potential malignancy until proven otherwise. More complete imaging characterization with contrasted CT chest is advised.

Heart size is within normal limits. Lungs appear otherwise well aerated.

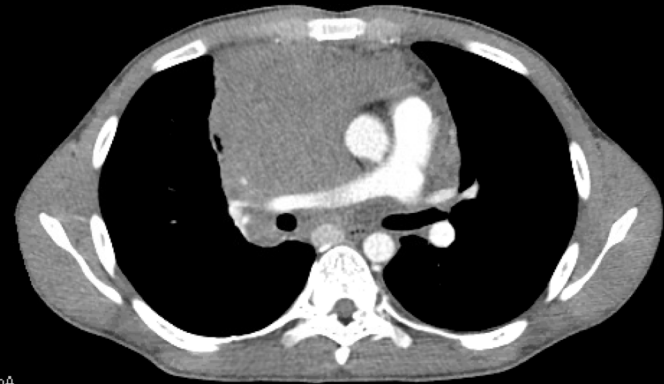
Anterior/Superior Mediastinal Mass: 5 T's

- Thymoma
- Thyroid
- Teratoma (germ cell tumor)
- Terrible Lymphoma
- (Thoracic Aortic Aneurysm)

CT Chest: axial



mA



5 mA



5 mA



mA

CT Chest: coronal



CT Read

Correlating with CXR abnormality is a very **large infiltrative superior mediastinal mass** measuring up to at least **16-17cm longitudinally by at least 11.4 cm in greatest AP by at least 15cm in transverse dimensions** extending from the thoracic inlet inferiorly to the carina level with **encasement of the great vessels and bronchovascular encasement of the central pulmonary arteries, trachea, and main stem bronchi**. There is effacement and narrowing of the SVC. There is **filling defect in the partially visualized right IJ vein consistent with thrombosis**, likely due to malignant obstruction more inferiorly. **Cannot identify a normal thymic tissue separate from the mass**. There is associated moderate pericardial effusion. There is a **filling defect which extends from the junction of the lower SVC into the right atrium (axial image 43) for which tumor thrombus extending into the right atrium is a consideration** versus artifact. Recommend correlation with Echo.

Lungs appear otherwise normally aerated without focal infiltrate or focal lung lesions. The partially visualized upper abdomen unremarkable, spleen is not enlarged, no aggressive bony lesions.

Biopsy Results

- 1) MEDIASTINAL MASS, FINE NEEDLE ASPIRATION/WASH:
 - **RARE ATYPICAL CELLS IN A BACKGROUND OF MIXED INFLAMMATORY CELLS, SUSPICIOUS FOR HODGKIN LYMPHOMA.**
- 2) LYMPH NODE, 11R, FINE NEEDLE ASPIRATION/WASH:
 - RARE ATYPICAL CELLS IN A BACKGROUND OF MIXED INFLAMMATORY CELLS, SUSPICIOUS FOR HODGKIN LYMPHOMA.
- MASS, ANTERIOR MEDIASTINUM, TRANSTHORACIC BIOPSY:
 - **CLASSICAL HODGKIN LYMPHOMA, NODULAR SCLEROSING SUBTYPE**

Staging PET scan

- Head and Neck: Hypermetabolic bilateral, left greater than right, cervical lymphadenopathy, SUVmax 9.1.
- Chest: Bilateral hypermetabolic hilar and supraclavicular lymphadenopathy, in addition to extensive bulky hypermetabolic mediastinal lymphadenopathy in the prevascular, paratracheal, AP window and subcarinal regions, SUVmax 9.0 (image 103).
- Abdomen/Pelvis: There are multiple hypermetabolic lesions within the spleen, SUVmax 3.0 (image 139). There are hypermetabolic gastrohepatic, periportal and portocaval lymph nodes, SUVmax 5.0 (image 144). There is a small hypermetabolic left pelvic sidewall lymph node, SUVmax 2.3 (image 226).
- Musculoskeletal: There are numerous hypermetabolic lesions throughout the axial and appendicular skeleton. Notable lesions demonstrated in the shoulder girdles, throughout the spine, bilateral pelvis, sacrum and extremities.
- **IMPRESSION: Innumerable hypermetabolic soft tissue and bone lesions in the neck, chest, abdomen, pelvis and extremities compatible with lymphoma.**

Ann Arbor Staging

- Stage I: Single lymph node region
- Stage II: Multiple lymph nodes on same side of diaphragm
- Stage III: Multiple nodes on opposite sides of diaphragm
- Stage IV: Diffuse/Disseminated extralymphatic involvement

- A: absence of “B symptoms”
- B: with “B symptoms” (fever, night sweats, weight loss)

- **Final Diagnosis: Stage IVB Classical Hodgkins Lymphoma, Nodular Sclerosis type**

Hodgkins Lymphoma

- ~10% of all Lymphomas in US, 0.6% of all cancers
- “Classical” type makes up 90% of Hodgkins lymphoma and is defined by presence of Reed-Sternberg cells.
 - 4 subtypes by histology. Nodular Sclerosis type is most common, ~70% of classical HL
- Bimodal distribution, with peaks in adolescence/early adulthood and in late adulthood
 - Nodular sclerosis type primarily between age 15-35
- Curable in ~75% of cases

Treatment

- ABVD +/- radiation
 - ABVD = Adriamycin (doxorubicin), Bleomycin, Vinblastine, Dacarbazine
- Relapsed disease: Conventional chemotherapy as above with radiation (often more cycles)
- Refractory disease: high dose chemo with autologous HCT

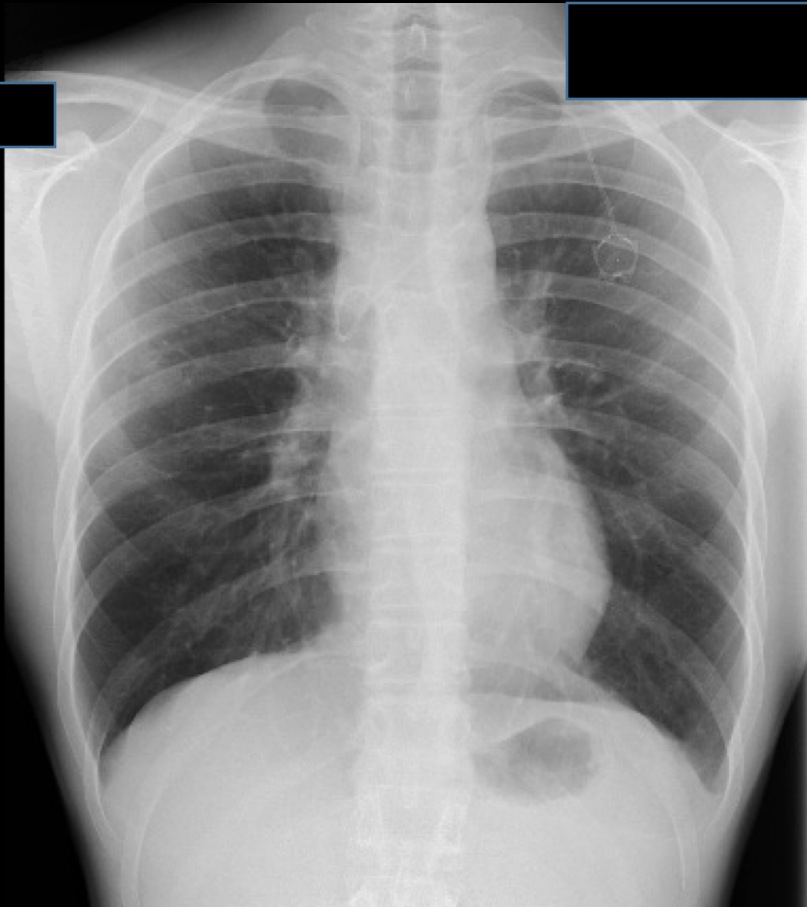
Our patient

- Received 6 cycles of ABVD (completed 6/2016) with excellent response. Consolidative radiation therapy deferred
- 7/2018 PET scan showed interval growth of mediastinal adenopathy, biopsy showed relapsed disease
- Attempted salvage chemo with ICE (ifosfamide, carboplatin, etoposide) without success
- Autologous HCT 12/2018
- Started brentuximab maintenance 4/2019
 - Antibody-drug conjugate targeting CD30

9/2019

- New productive cough with sick roommate

CXR 9/19/19



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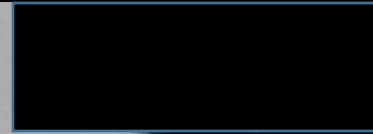
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