13-year-old male with 2-month history of progressive shortness of breath

Hanako Agresta, MS3
Racquel Helsing, MD

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PA Chest Radiograph

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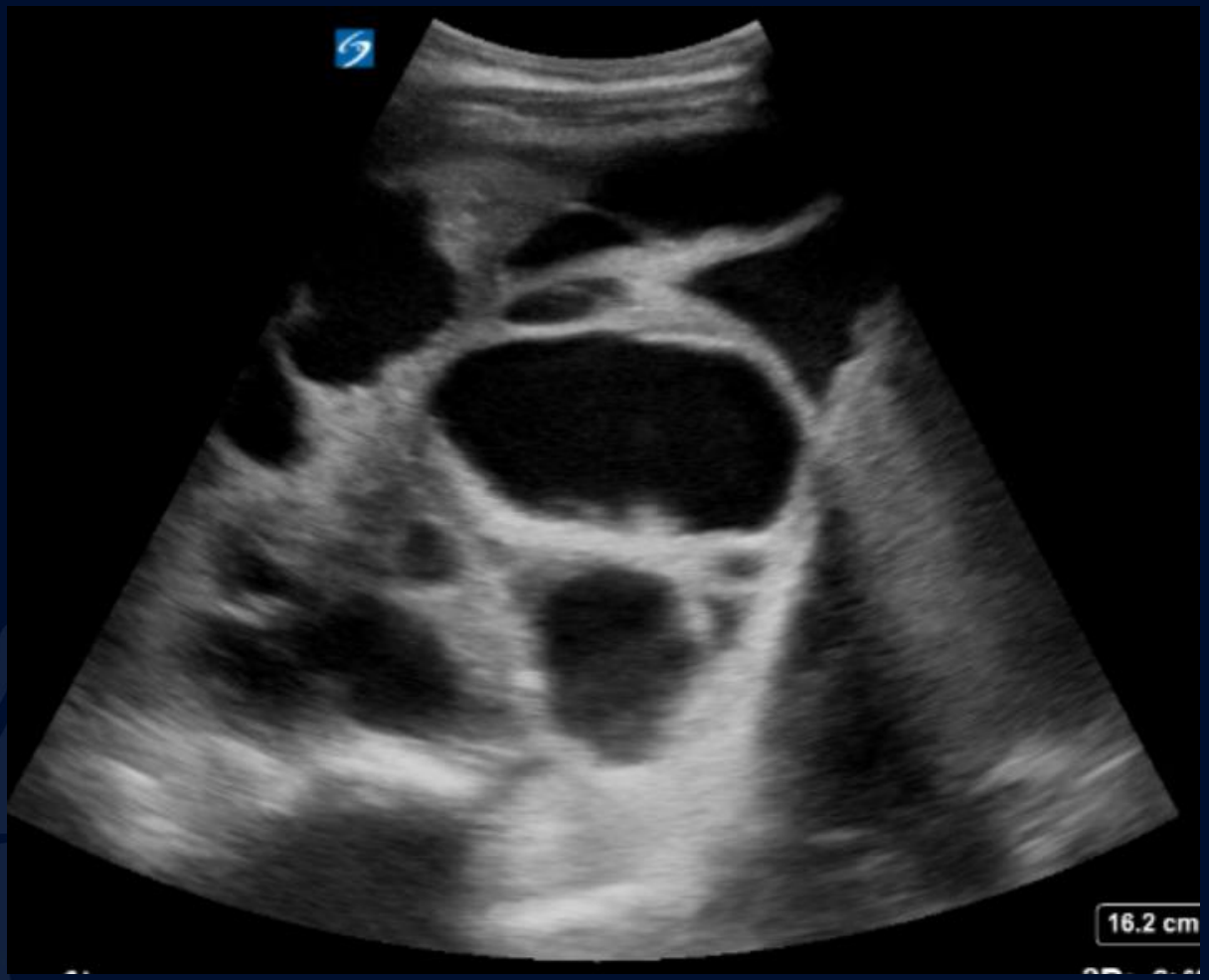
Ultrasound Right Pleural Space



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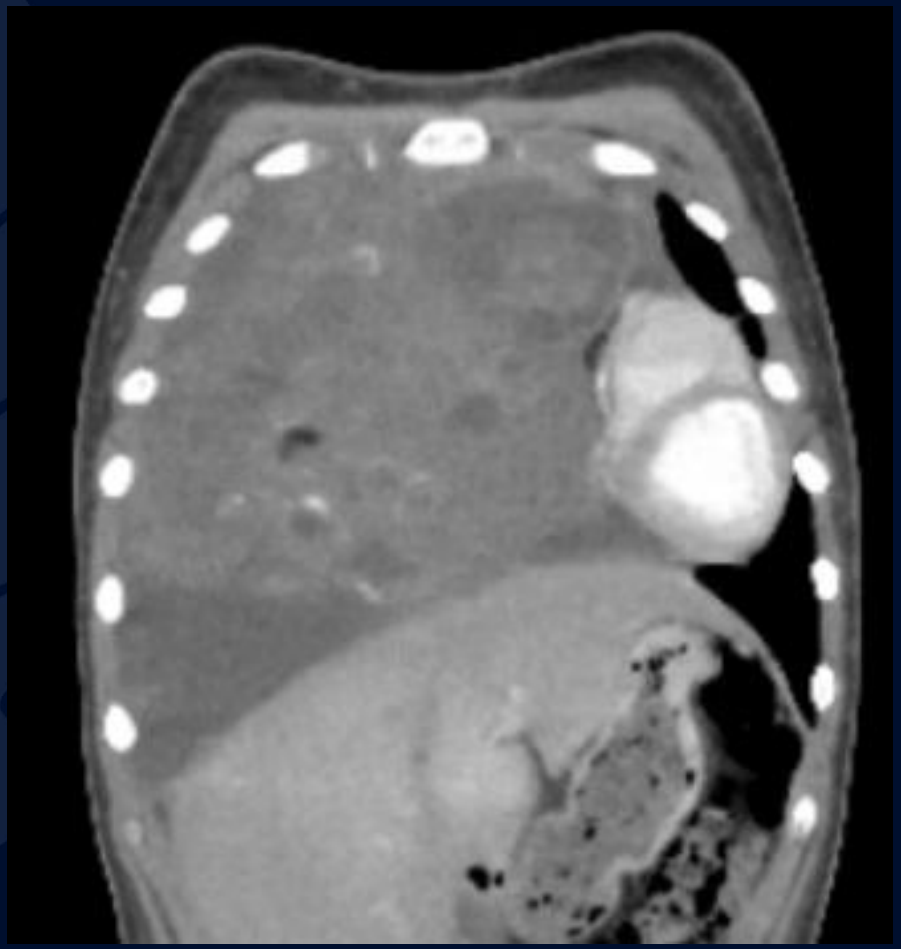
CT Chest with IV contrast



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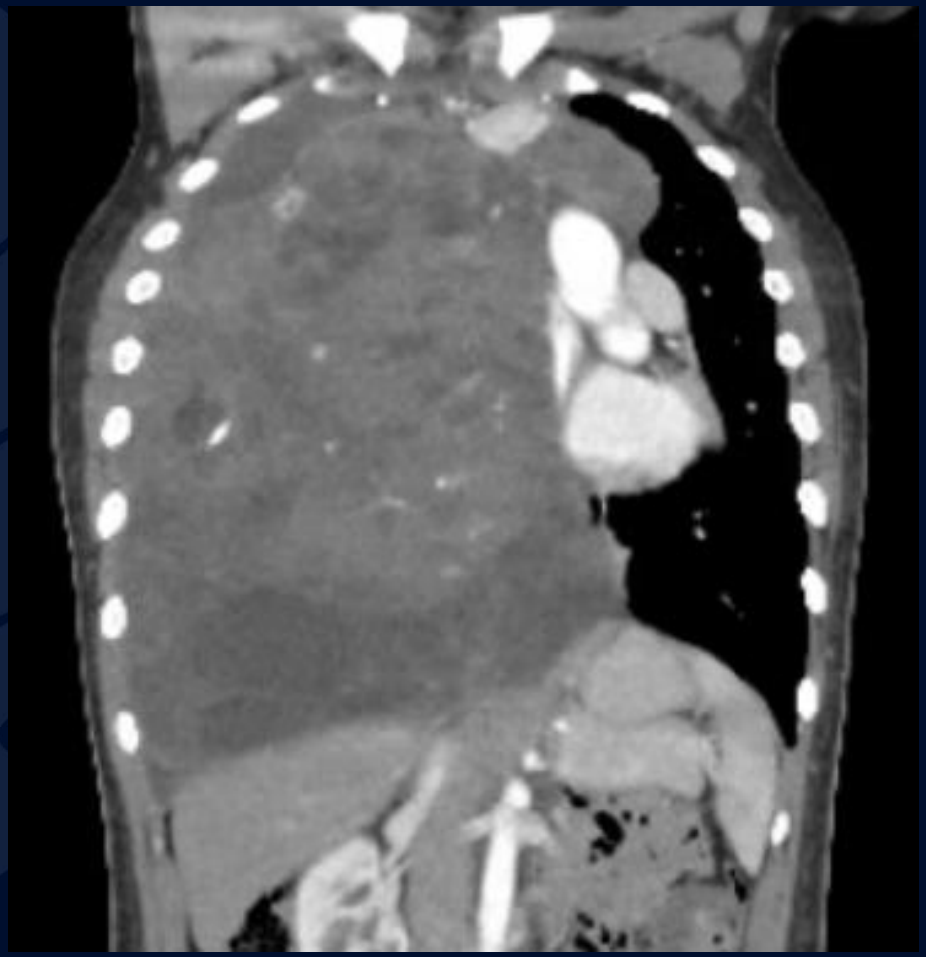
CT Chest with IV contrast



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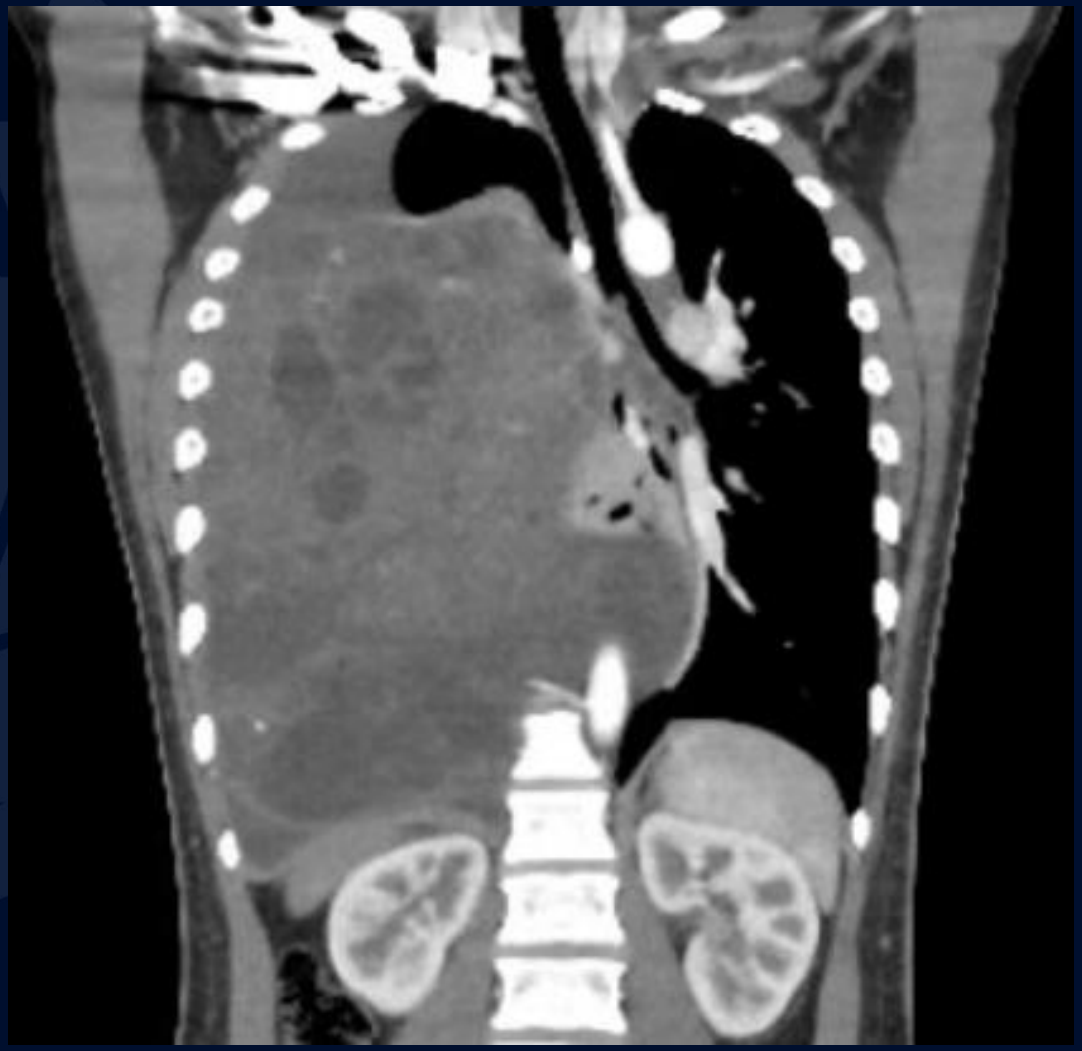

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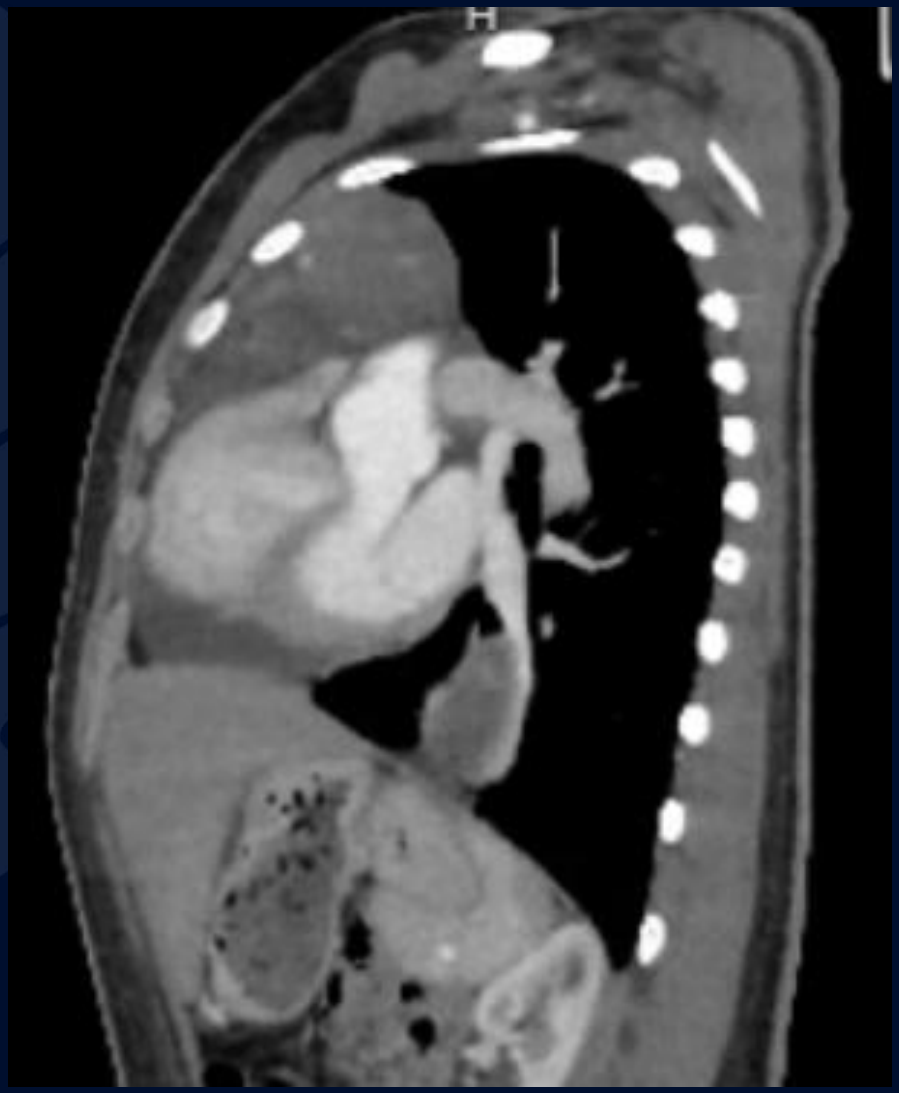

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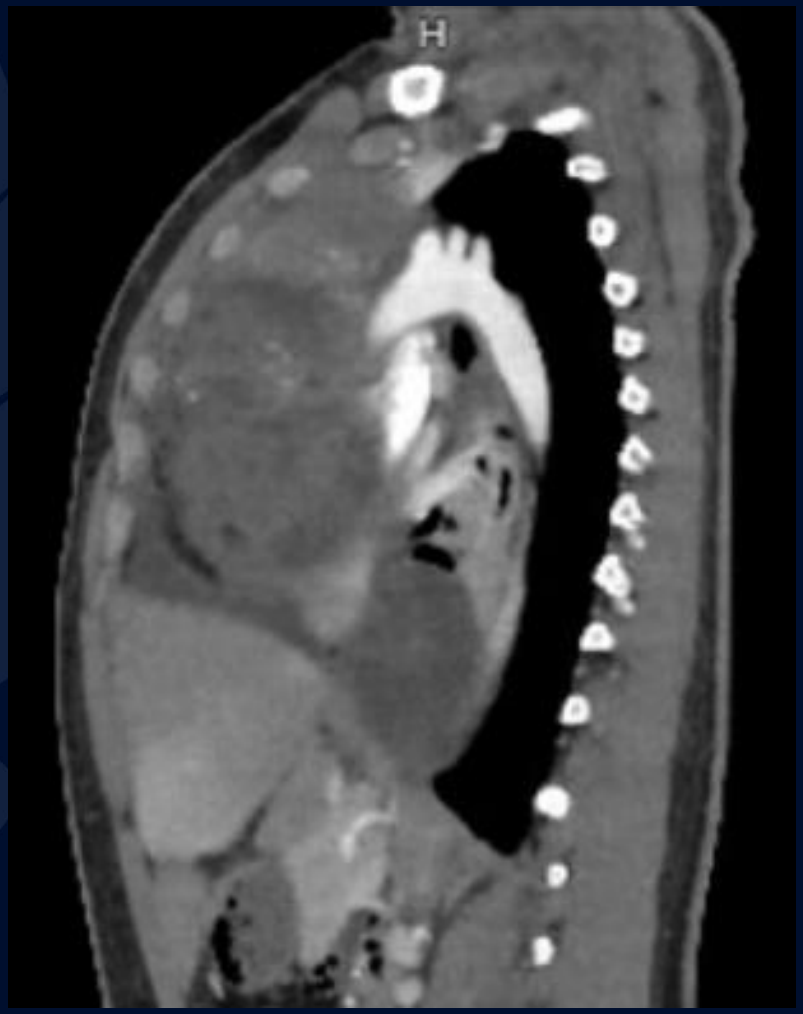

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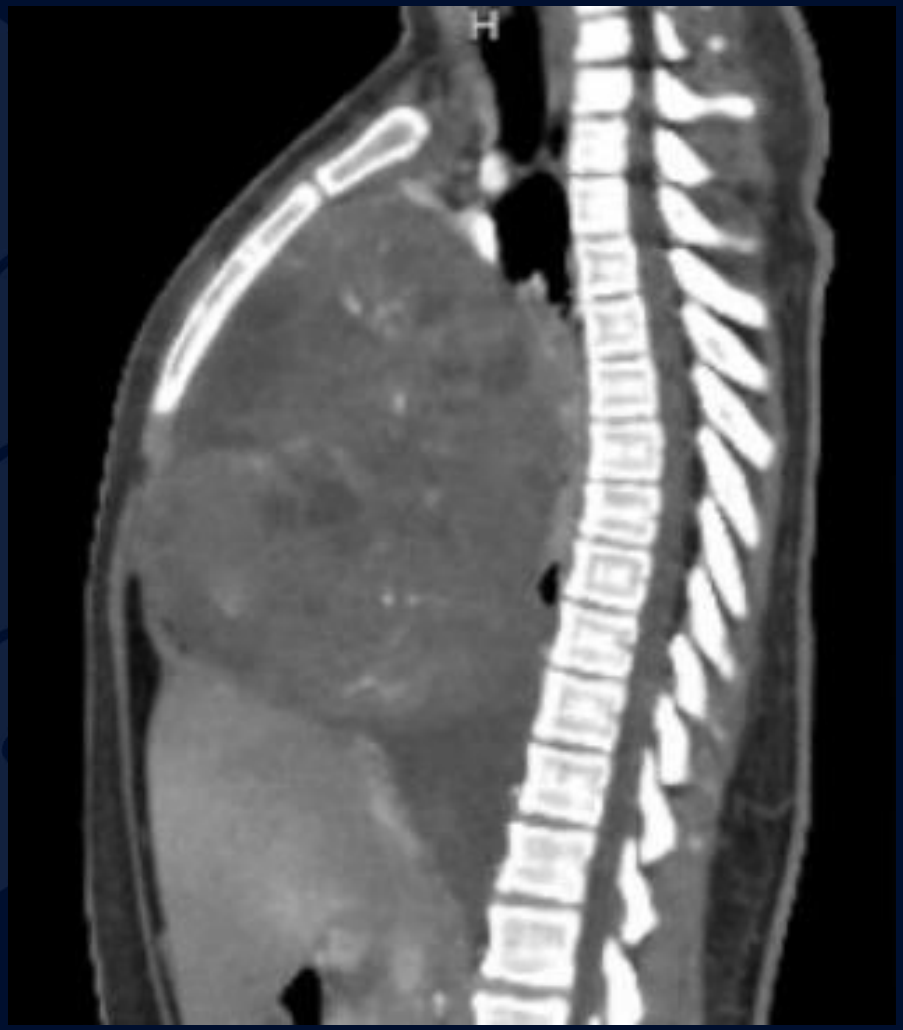

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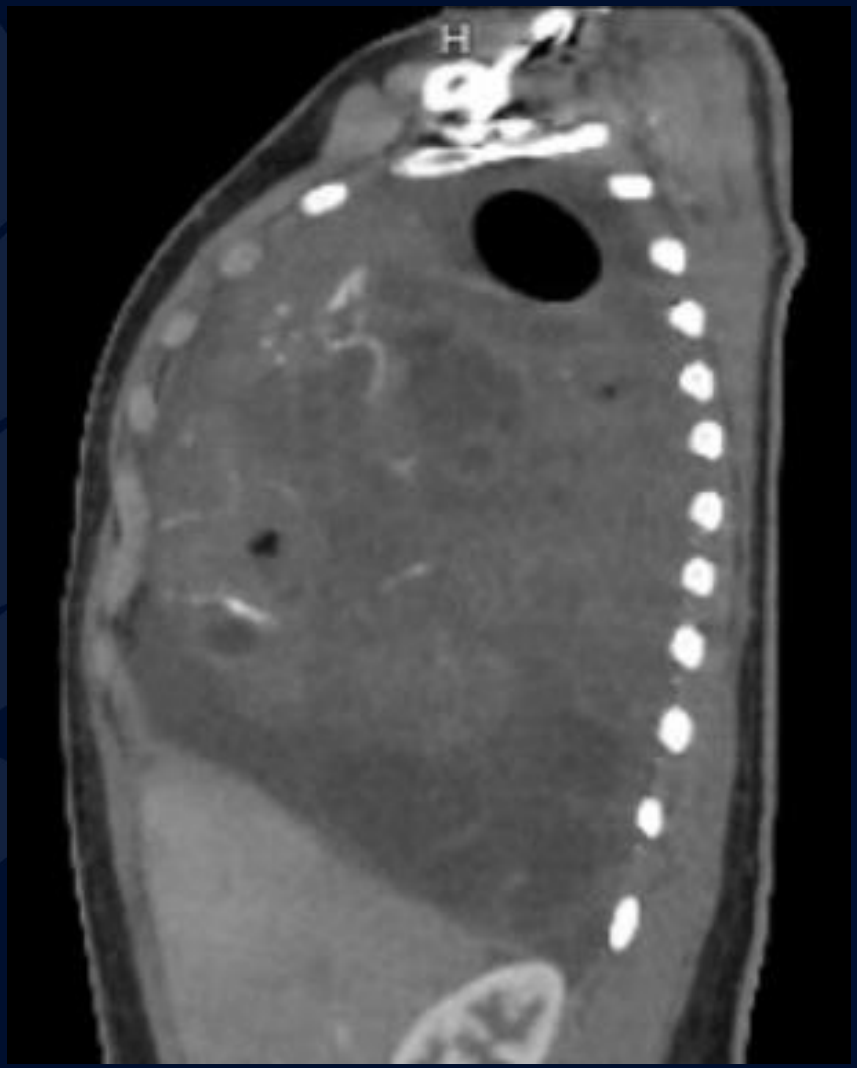

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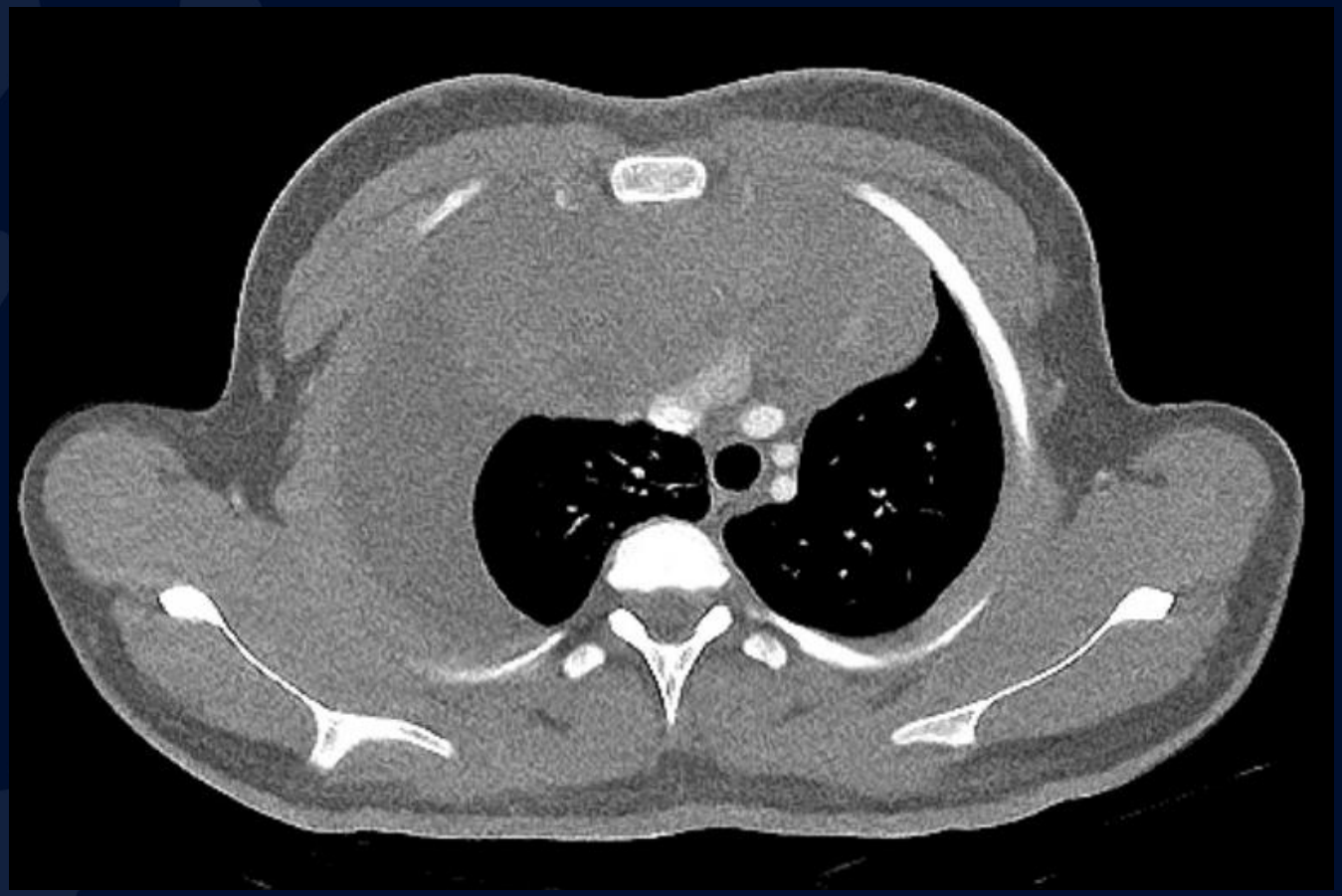
CT Chest with IV contrast



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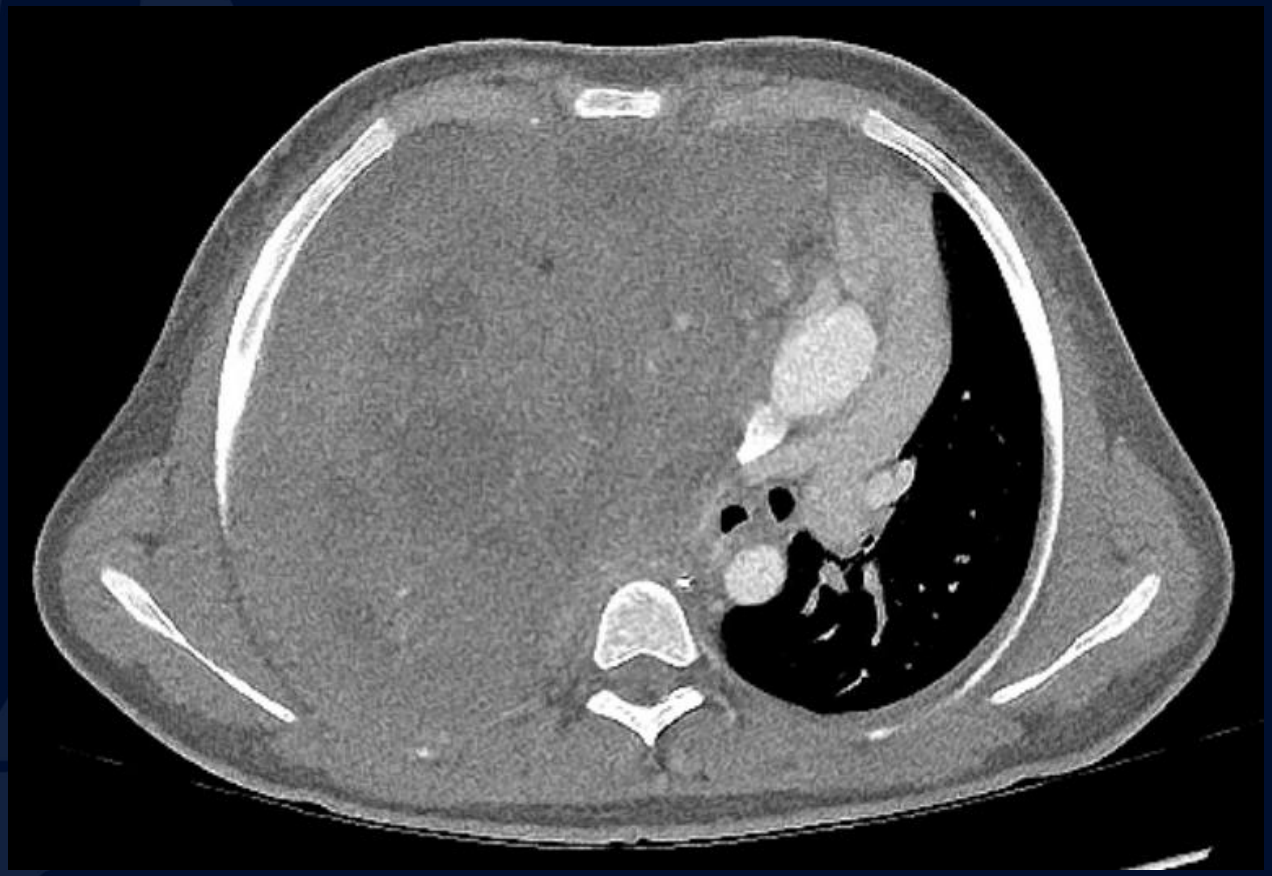
CT Chest with IV contrast



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CT Chest with IV contrast

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Anterior Mediastinal Mature Teratoma

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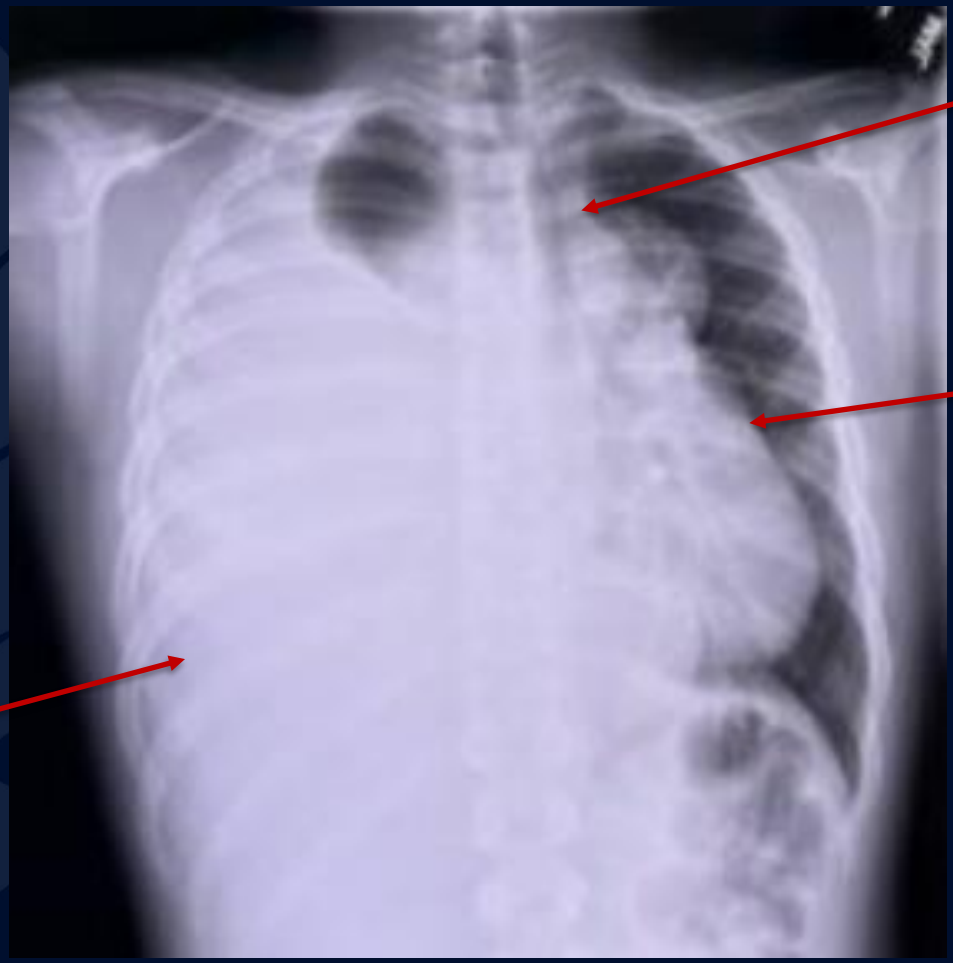
PA Chest Radiograph



Leftward tracheal deviation

Leftward mediastinal shift

Near complete opacification of the right hemithorax with some apical aeration

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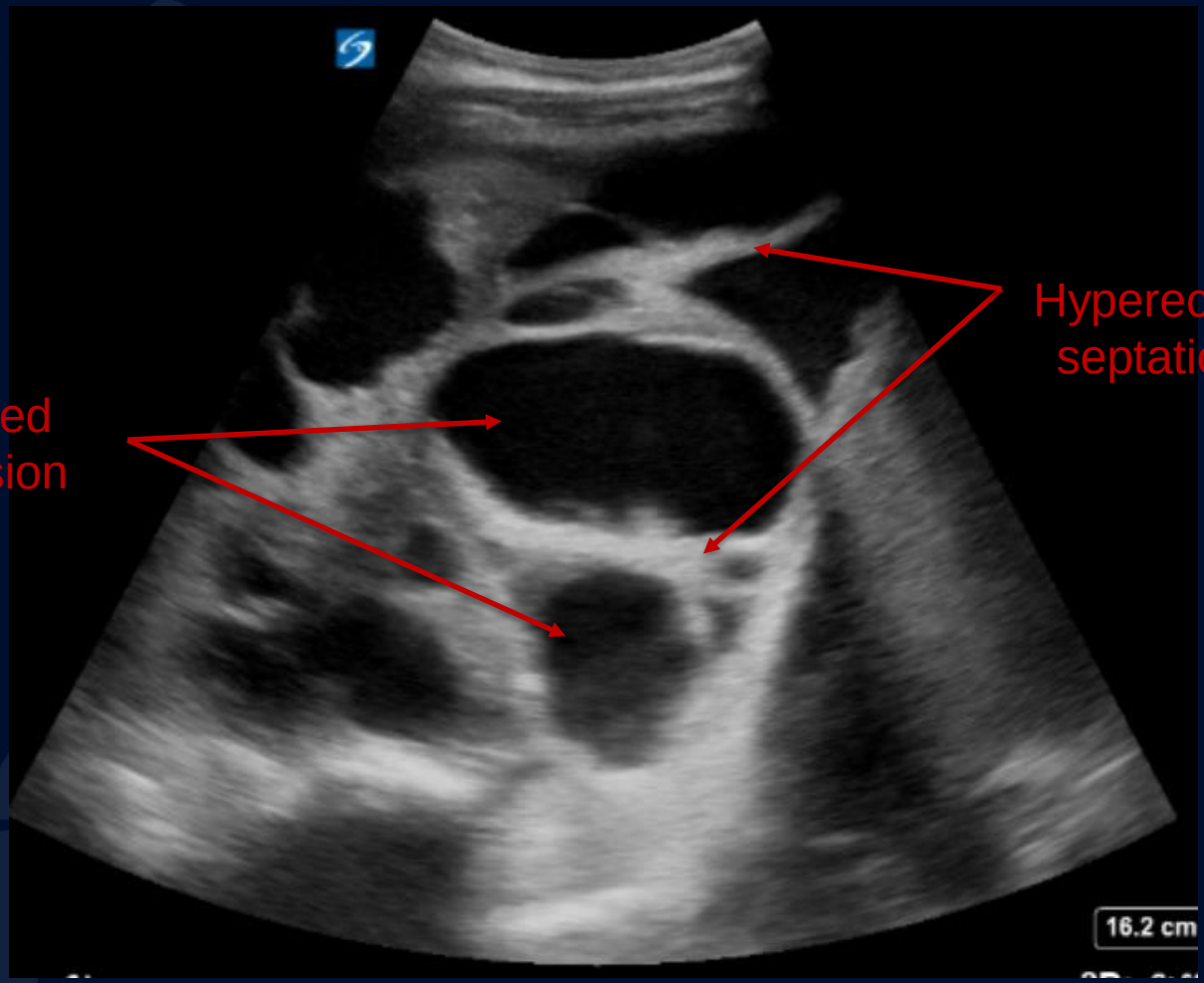
Ultrasound Right Pleural Space



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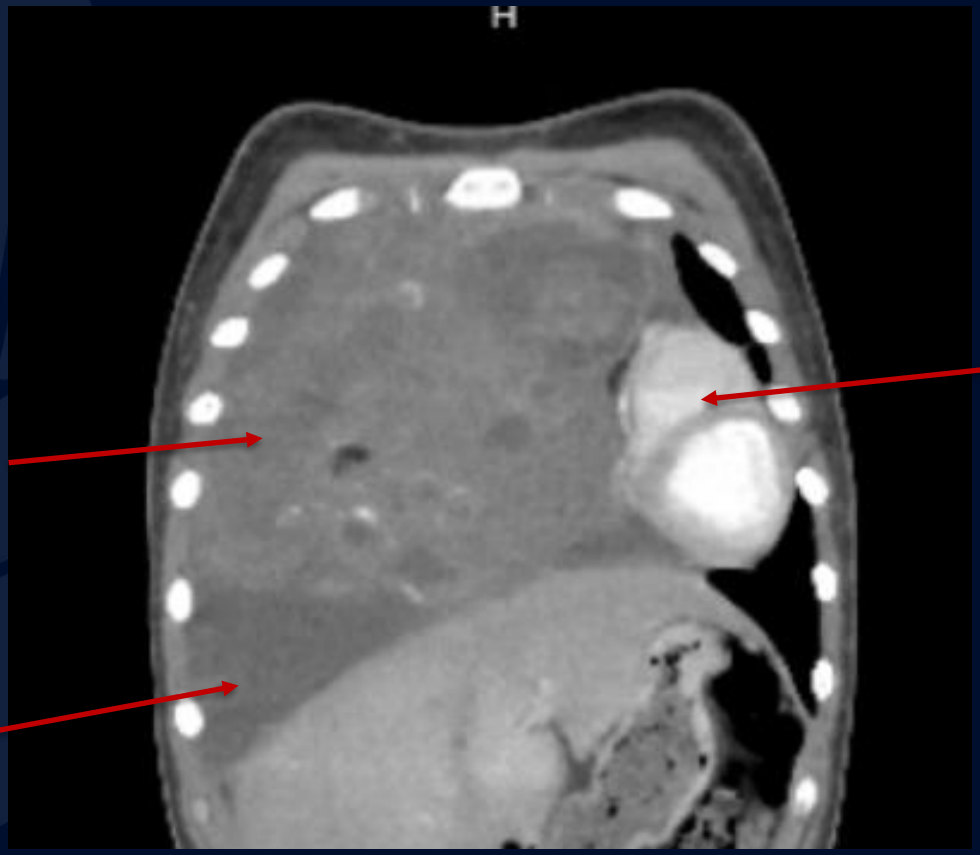
CT Chest with IV contrast



Large heterogeneous mass

Right pleural effusion

Left mediastinal shift

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CT Chest with IV contrast

Calcifications

Left mediastinal shift

Complex right pleural effusion with septations

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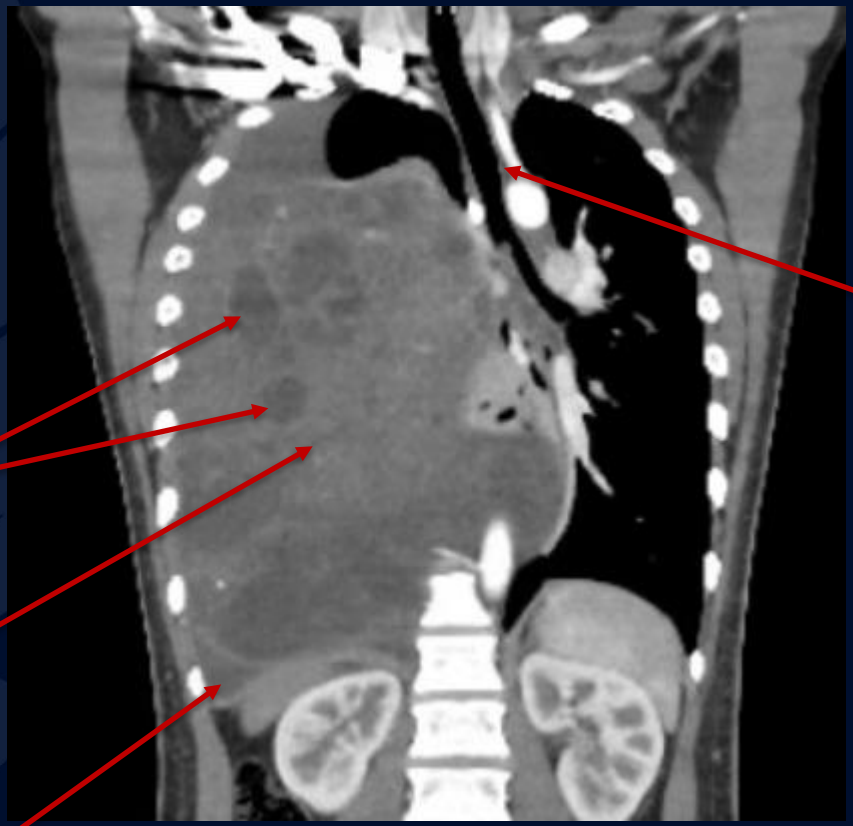
CT Chest with IV contrast



Leftward tracheal deviation

Cystic components

Large heterogeneous mass

Right pleural effusion

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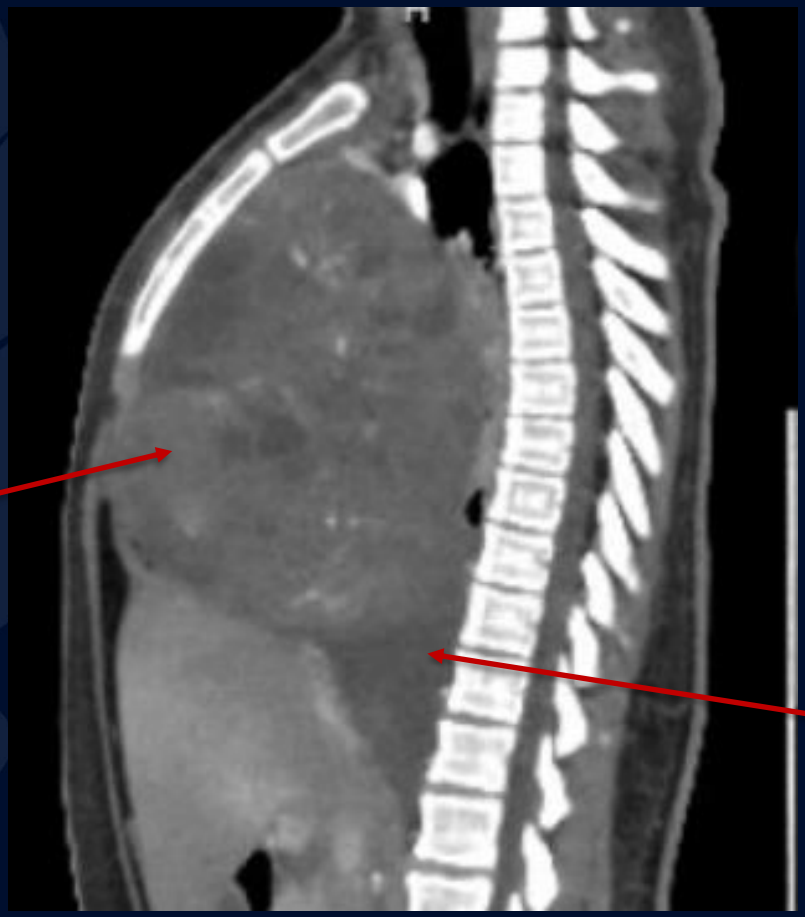
CT Chest with IV contrast



Heterogeneous anterior mediastinal mass crossing midline

Pleural effusion

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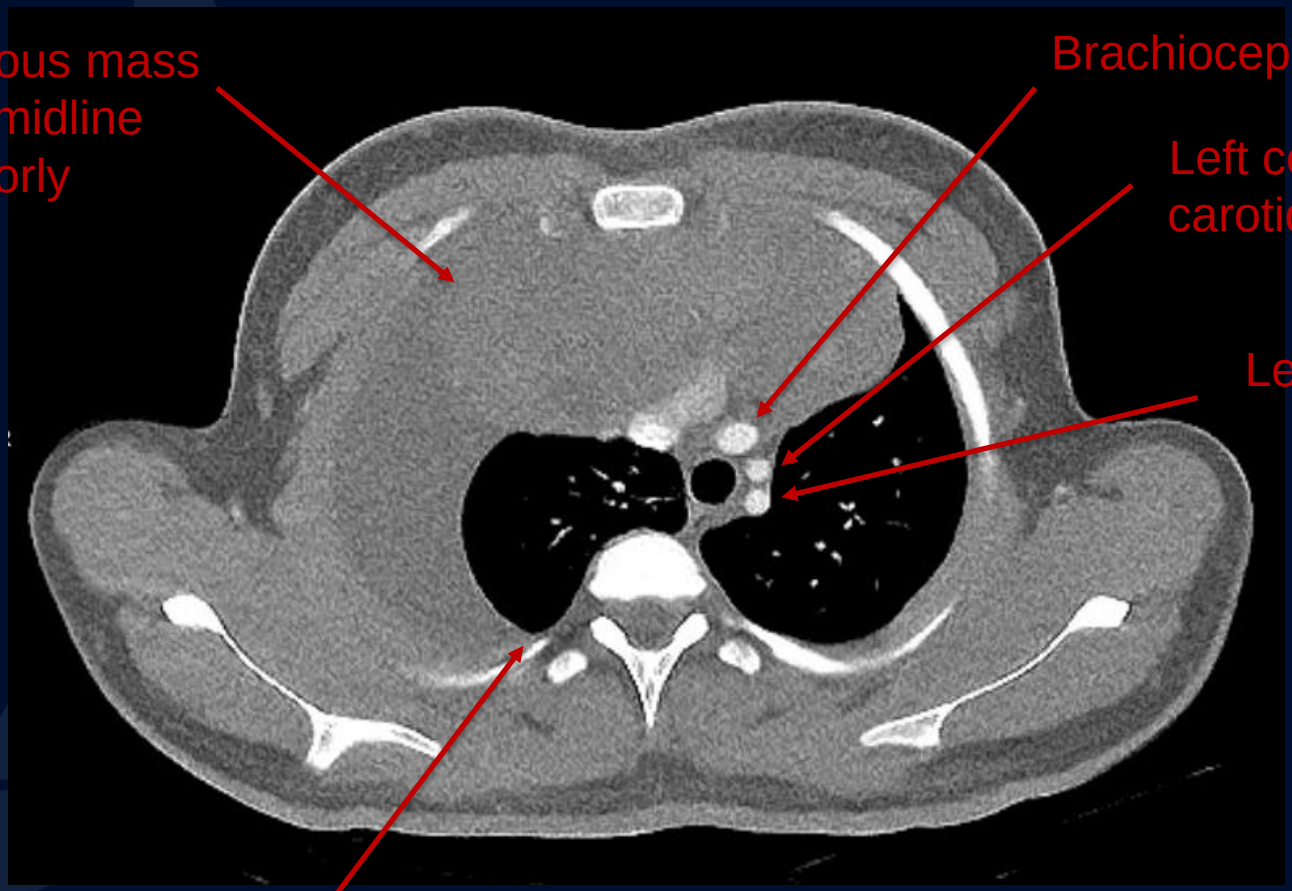
CT Chest with IV contrast



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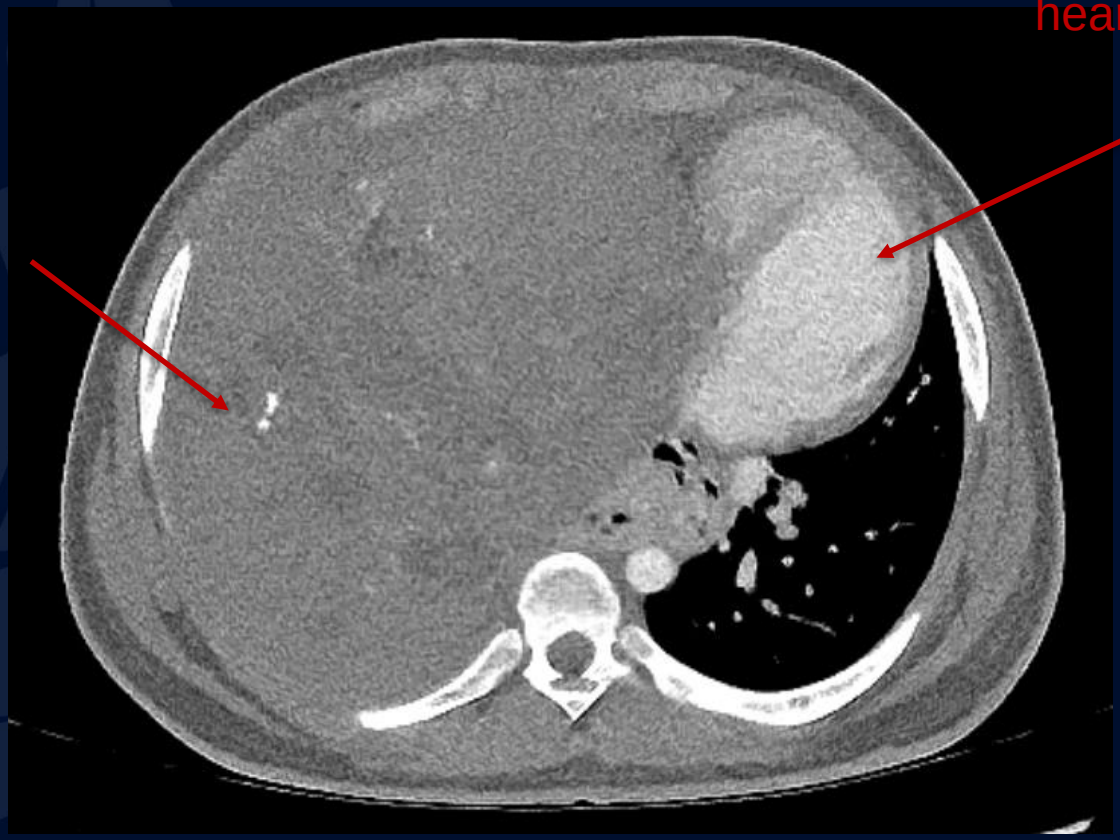
CT Chest with IV contrast

Leftward deviation of the heart and mediastinal structures

Heterogeneous mediastinal mass with calcifications



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Mature Mediastinal Teratoma

Epidemiology

- Constitute 8-13% of anterior mediastinal masses
- 1-10% of germ cell tumors are in the mediastinum
- Risk factor: Klinefelter syndrome

Pathology

- Formed from well-differentiated tissues derived from greater than one of three embryonic germ cell layers (ectoderm, mesoderm, endoderm)

Clinical Presentation

- Usually slow growing, often found incidentally on imaging
- When symptomatic symptoms include chest pain, cough, dyspnea, bronchial obstruction, superior vena cava syndrome, and Horner syndrome secondary to compression/obstruction of surrounding organs
- If tumor erodes into bronchus, patients may present with expectoration of hair (trychoptysis) or sebaceous material

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Mature Mediastinal Teratoma

Diagnosis

- Imaging
  - Chest CT or MRI show evidence of heterogeneous anterior mediastinal mass with soft-tissue, fluid, fat, and/or calcium attenuation
  - Diagnosis confirmed with biopsy during surgical excision
- Differential
  - Thymolipoma, thymic tumor, cyst, lymphoma, choriocarcinoma, seminoma, yolk sac tumor, endodermal sinus tumor, mixed germ cell tumor, neuroendocrine tumor

Treatment

- Surgical excision is nearly always curative
- Generally unresponsive to chemotherapy or radiation therapy

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