



KARNATAKA RADIOLOGY EDUCATION PROGRAM

CASE PRESENTATION

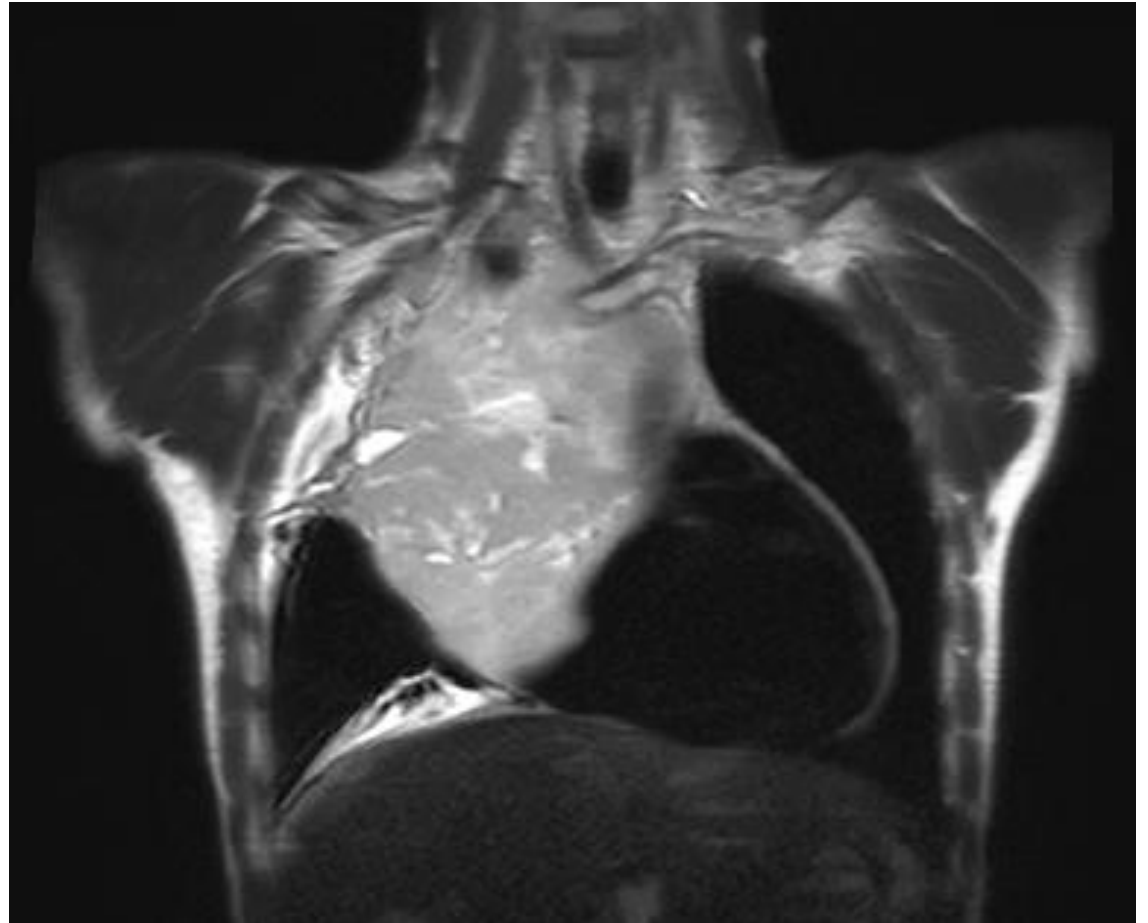
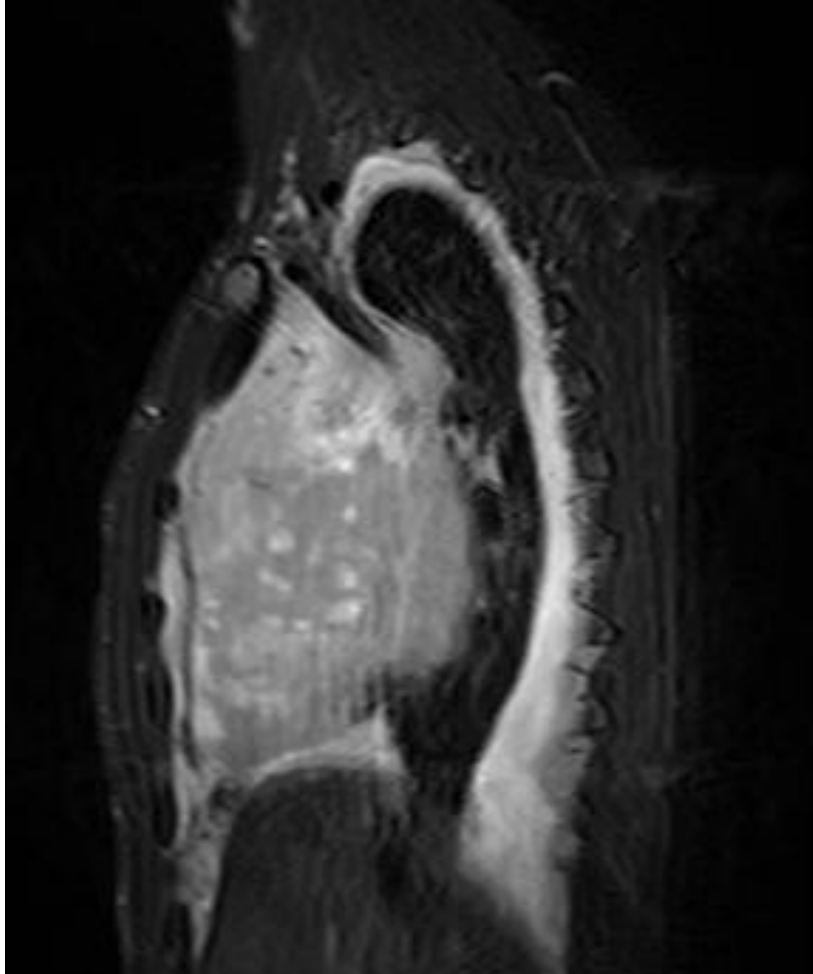
Case of Mediastinal Lymphoma

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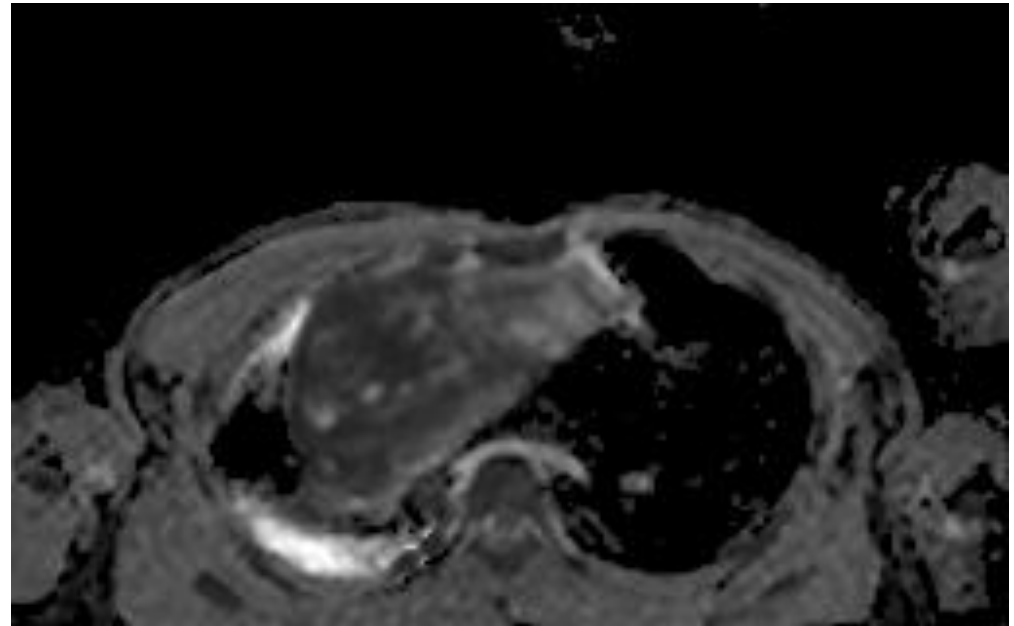
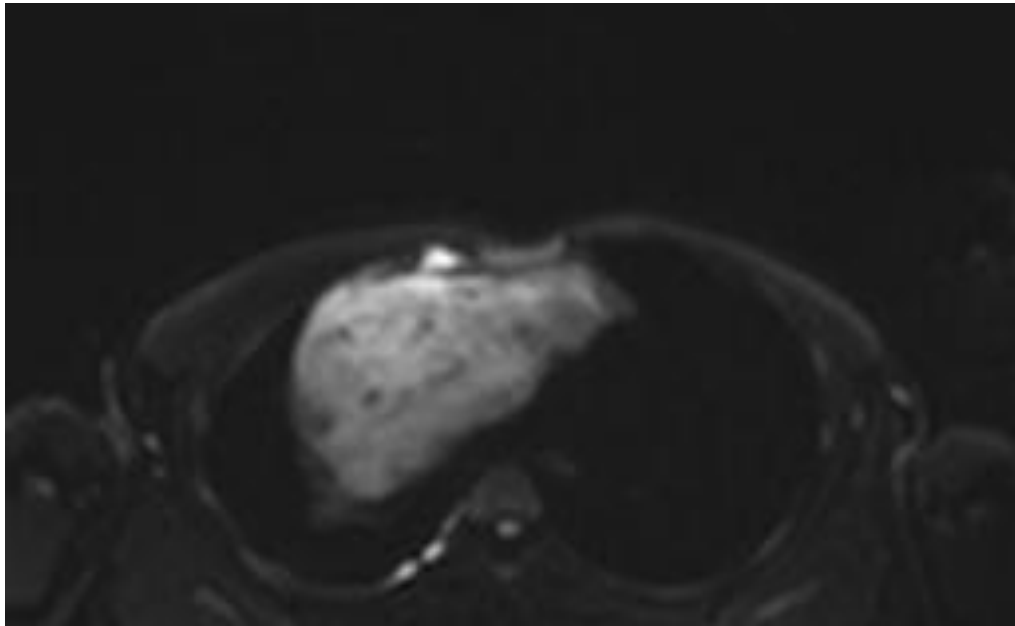
CLINICAL HISTORY

- 17 year old male patient presented with complaints of cough with sputum, fever, fatigue and difficulty in breathing since 1 week
- Patient underwent CECT Thorax (done elsewhere) with findings:
 - Large well-defined heterogeneously enhancing mass lesion in the anterior mediastinum with infiltration of left brachiocephalic vein and encasement of SVC, aorta and right brachiocephalic trunk.
- Patient was then advised MRI Thorax (Plain & Contrast) for further evaluation:

T2 Weighted Sagittal and Coronal images:

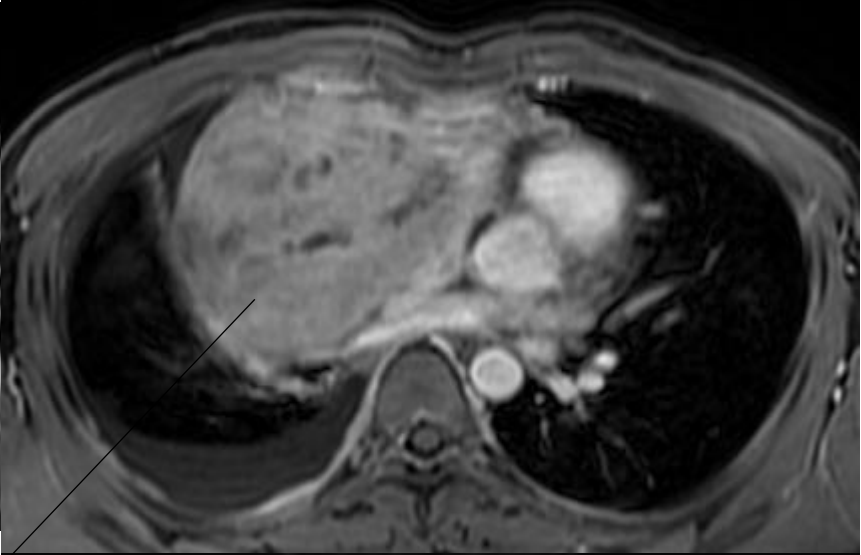
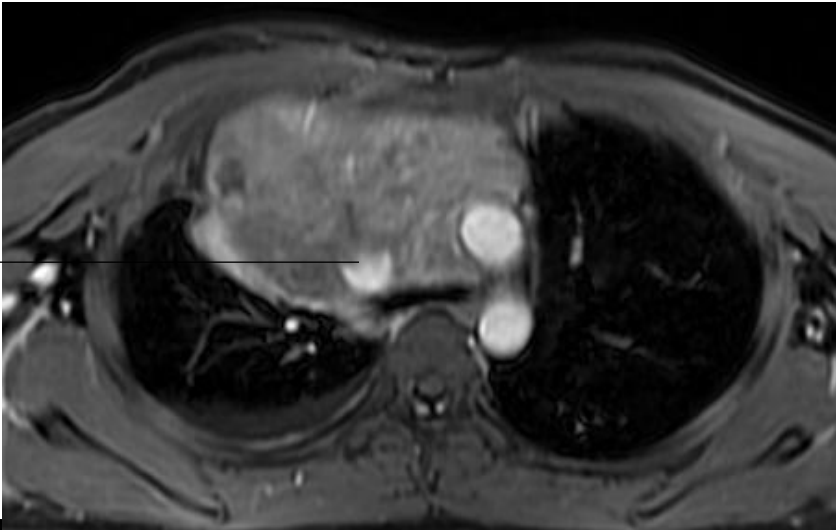


DWI & ADC sequences:

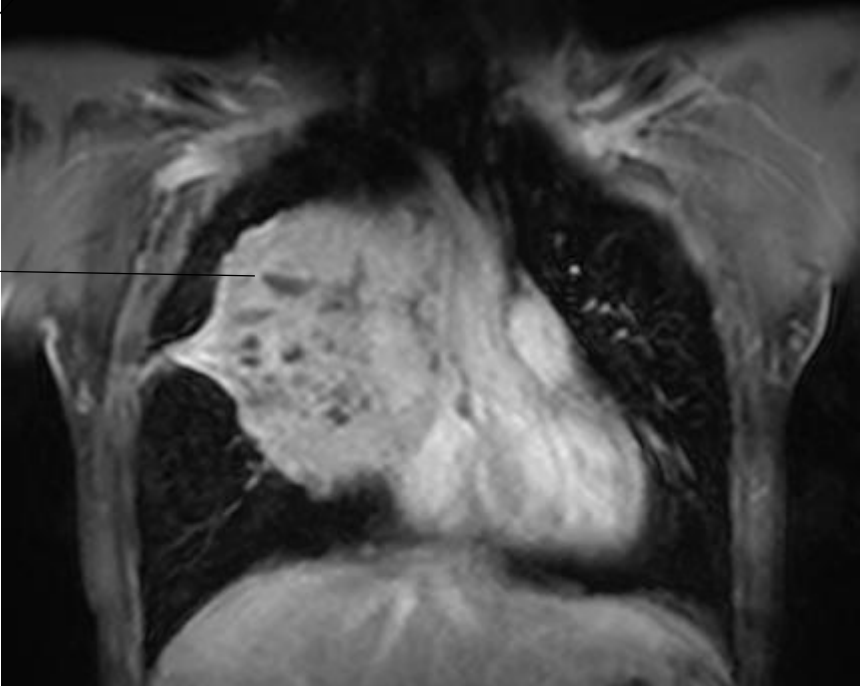
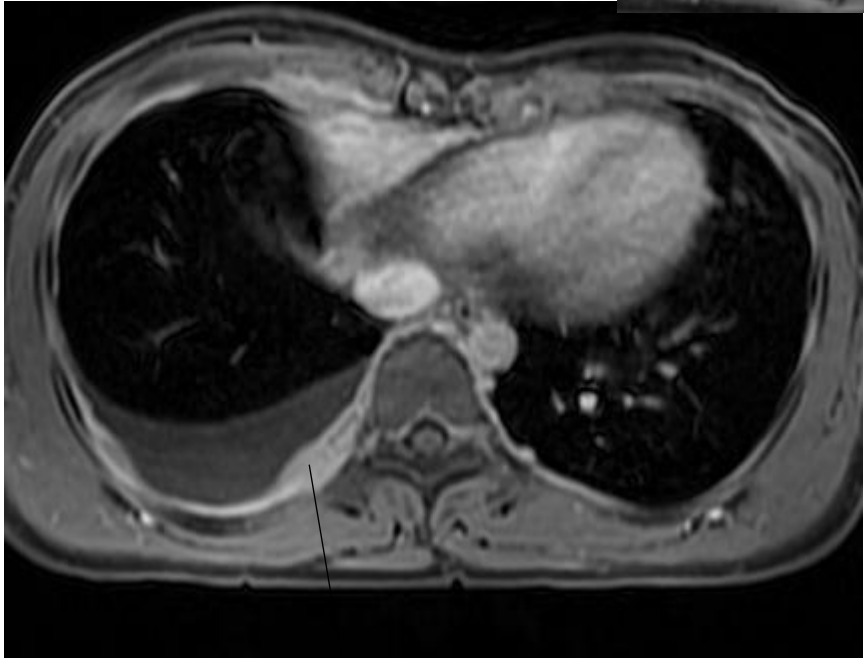


POST CONTRAST:

Encasing inferior aspect
of superior vena cava



Heterogeneously
enhancing mass lesion in
antero-superior
mediastinum



Enhancing lesions involving the
posterior parietal pleura... Metastatic
deposits

MRI FINDINGS

- Large heterogeneously enhancing mass lesion approximately measuring 9.0 (AP) x 13.2 (ML) x 12.4 (CC) cms involving antero-superior mediastinum extending into middle mediastinum with few internal non enhancing necrotic areas
- Anteriorly, abutting the posterior aspect of manubrium sterni, costo-chondral regions of 1st-4th ribs however with well maintained fat planes
- Laterally, causing mass effect on the anterior segment of right upper and middle lobes
- Posteriorly, encasing inferior aspect of SVC and causing mass effect on mediastinal structures (right hilum and right pulmonary artery with their mild displacement to the contralateral side)
- Few enhancing T2 hyperintense lesions involving the posterior parietal pleura on right side... Metastatic deposits
- Right mild pleural effusion with fissural extension

DIFFERENTIALS

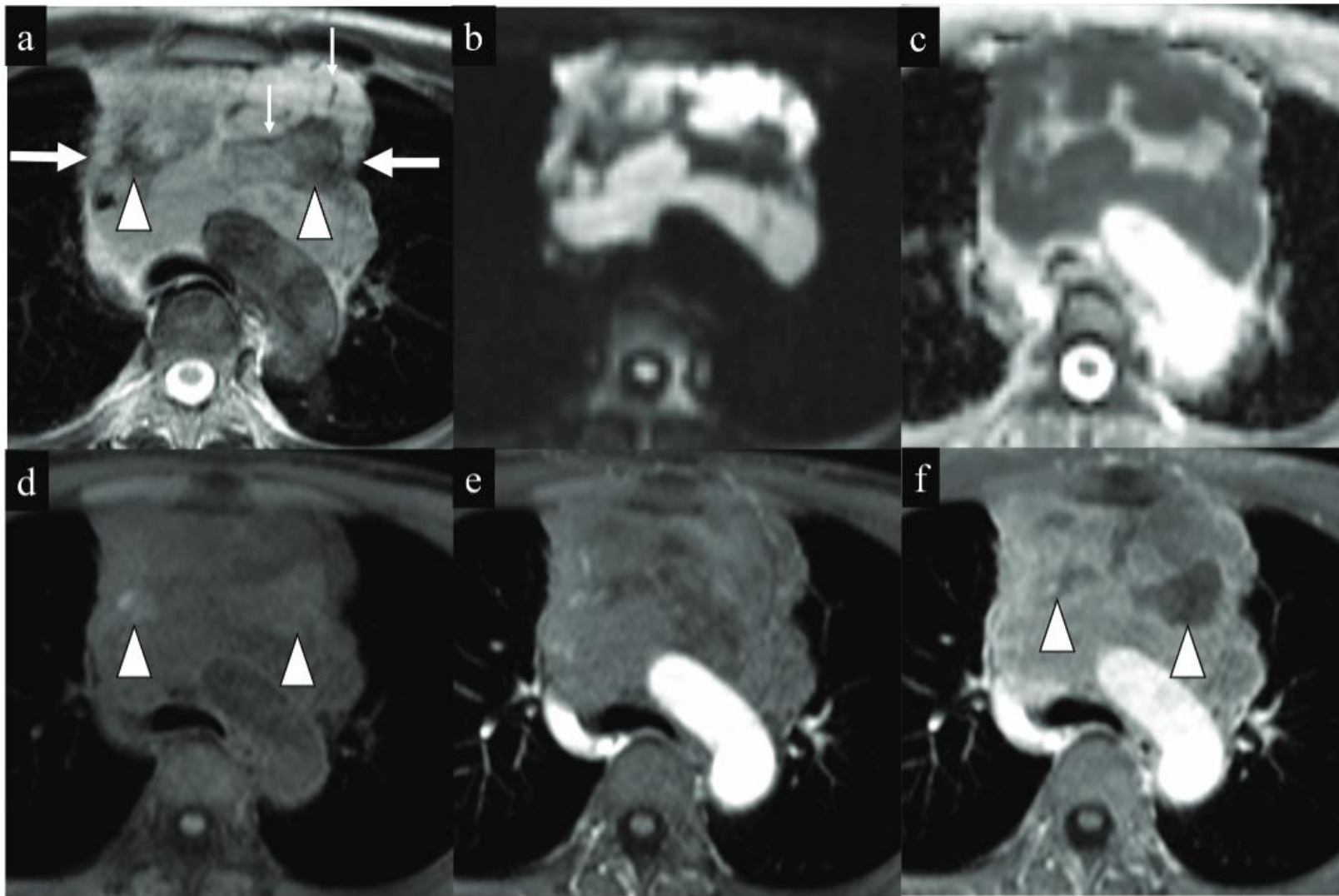
1. LYMPHOMA
2. SEMINOMA
3. THYMIC LESIONS

LYMPHOMA

- Age group 15 to 40 years with presence of B symptoms commonly
- Heterogeneous appearance on T2W imaging with necrotic areas
- Heterogeneous persistent enhancement with low ADC values
- Invasive tumour with encasement and infiltration of mediastinal structures and great vessels as discussed
- Presence of pleural effusion

SEMINOMA

- Age group 20 to 40 years with rarely seen systemic symptoms
- Seminoma shows homogeneous or mildly heterogeneous appearance on T2W imaging with limited necrotic areas
- Seminoma may show thin capsule and internal septations which are absent
- Persistent or plateau enhancement with low ADC values and necrotic areas
- Presence of pleural effusion is rare in seminoma



- **SEMINOMA IN A 38-YEAR-OLD MAN.** a) Axial T2-weighted image shows a heterogeneous high-signal-intensity mass with an irregular margin in the anterior mediastinum. Thin septa and low-signal-intensity areas which reflect hemorrhagic necrosis are seen in the mass. The superior vena cava is involved. B & c) show diffusion restriction. d, e, f) Axial dynamic contrast-enhanced images (a: pre-contrast; b: 30 sec; c: 180 sec after the start of injection of the contrast material) show a heterogeneous and persistent enhancement pattern of the mass.

THYMIC LESIONS

- Typical age group is 40 to 60 years
- Thymoma may show internal fibrous septa and homogeneous enhancement while thymic carcinoma are often heterogeneous with necrosis, cystic areas, and low-signal-intensity fibrous foci
- Thymoma generally shows higher ADC values while thymic carcinoma shows lower ADC values
- Thymomas show a washout pattern while thymic carcinomas display a persistent enhancement pattern

HISTOPATHOLOGY

MICROSCOPY:

Sections studied showed 3 linear core biopsies, out of which two cores showed diffuse lymphoid cells, with scanty cytoplasm and indistinct nucleoli. Occasional cells show moderate amount of cytoplasm with vesicular nuclei and prominent nucleolus. One core biopsy showed crush artefacts.

IMPRESSION *

Anterior mediastinal mass - Features are suspicious of Non-Hodgkin's lymphoma.

MICROSCOPY

The neoplastic cells express CD45, CD3, CD5, CD4, CD8, CD99 and negative for tdt, CD34, CD20, EMA, Synaptophysin and Chromogranin.

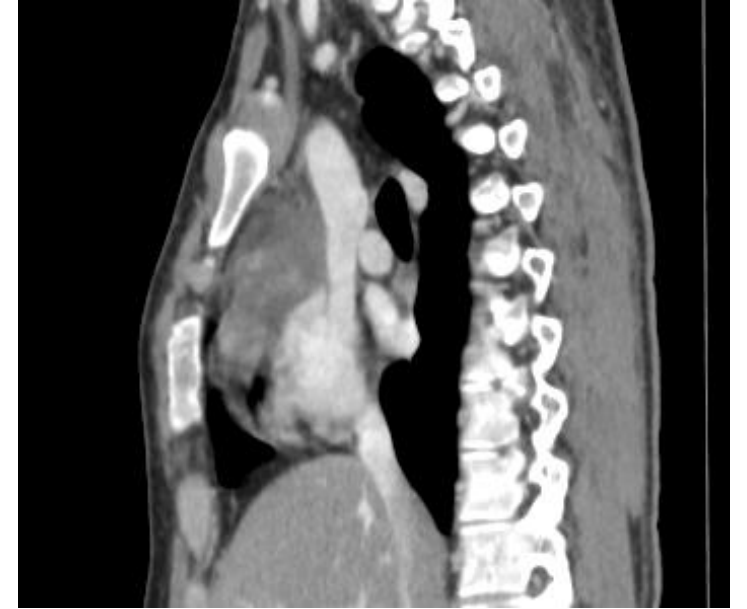
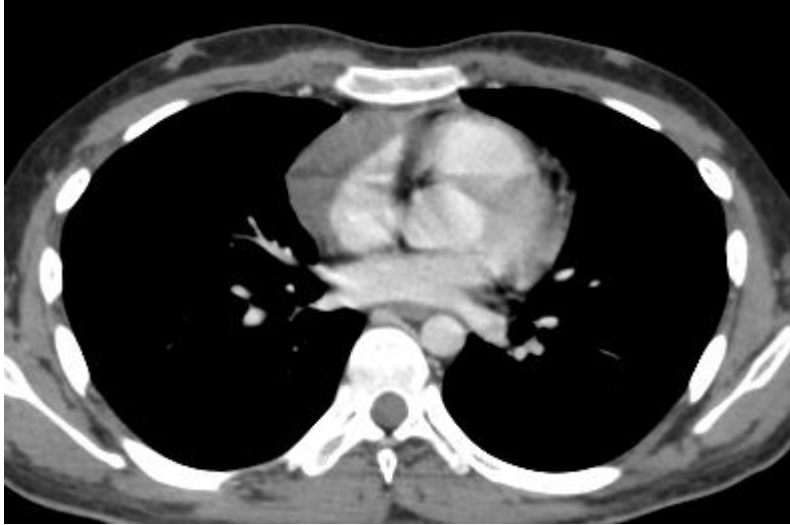
IMPRESSION

Features are suggestive of T - ALL.

FOLLOW UP

- Patient was started on induction phase chemotherapy and 2 months later, underwent a CECT Thorax for response assessment

CECT THORAX



- Significant reduction in the previously noted heterogeneously enhancing soft tissue density mass lesion, approximately measuring 4.1(AP) x 2.4(ML) x 6.7(CC) cms involving the anterior mediastinum
- Near total resolution of the previously noted right posterior parietal pleural deposits

THANK YOU