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Sinus Valsalva Aneurysm

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Patient presentation

- A 78-year-old male presented to ER w/ left flank pain then left pleuritic pain
- h/o prostate ca s/p XRT, emphysema w/o smoking history
- Lab data within normal limit except d-dimer slightly elevated

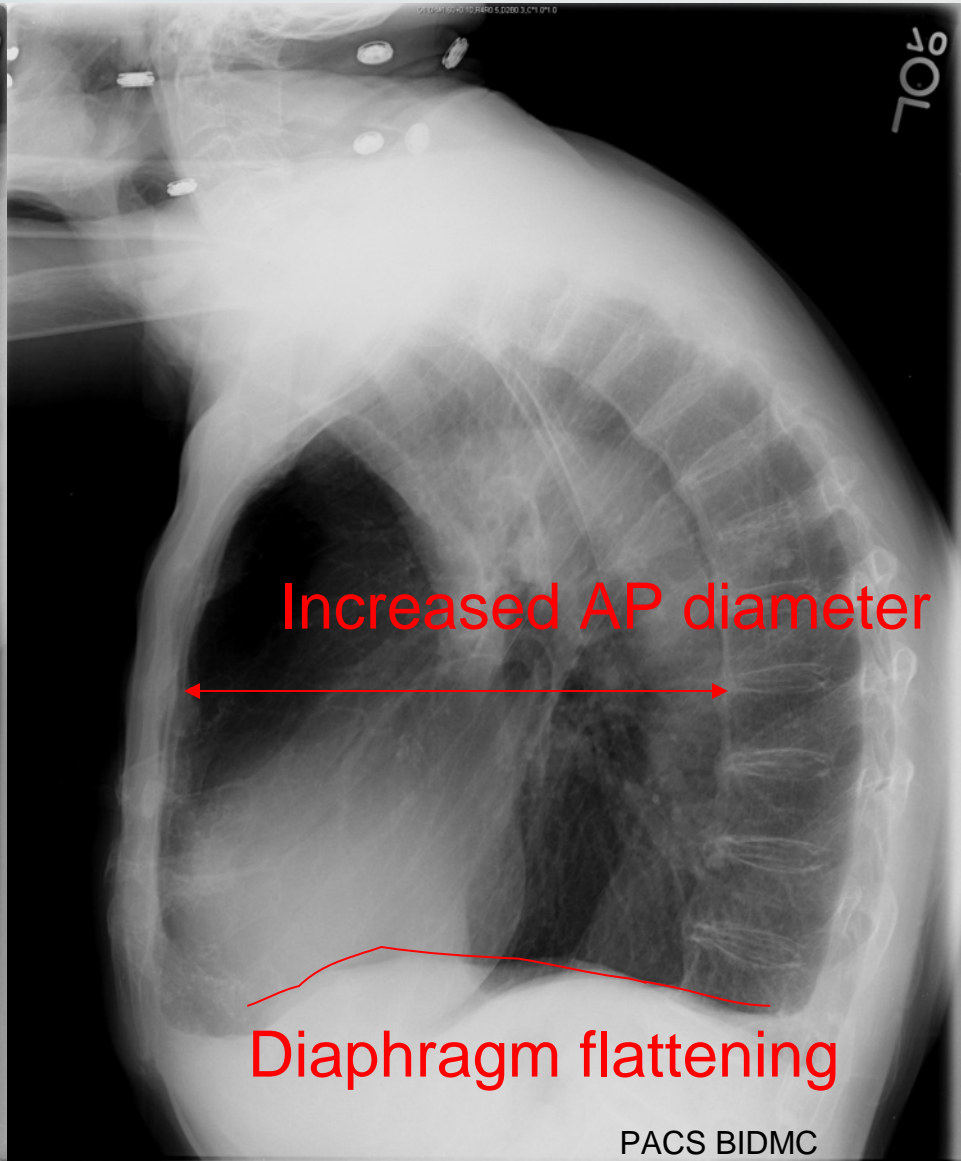
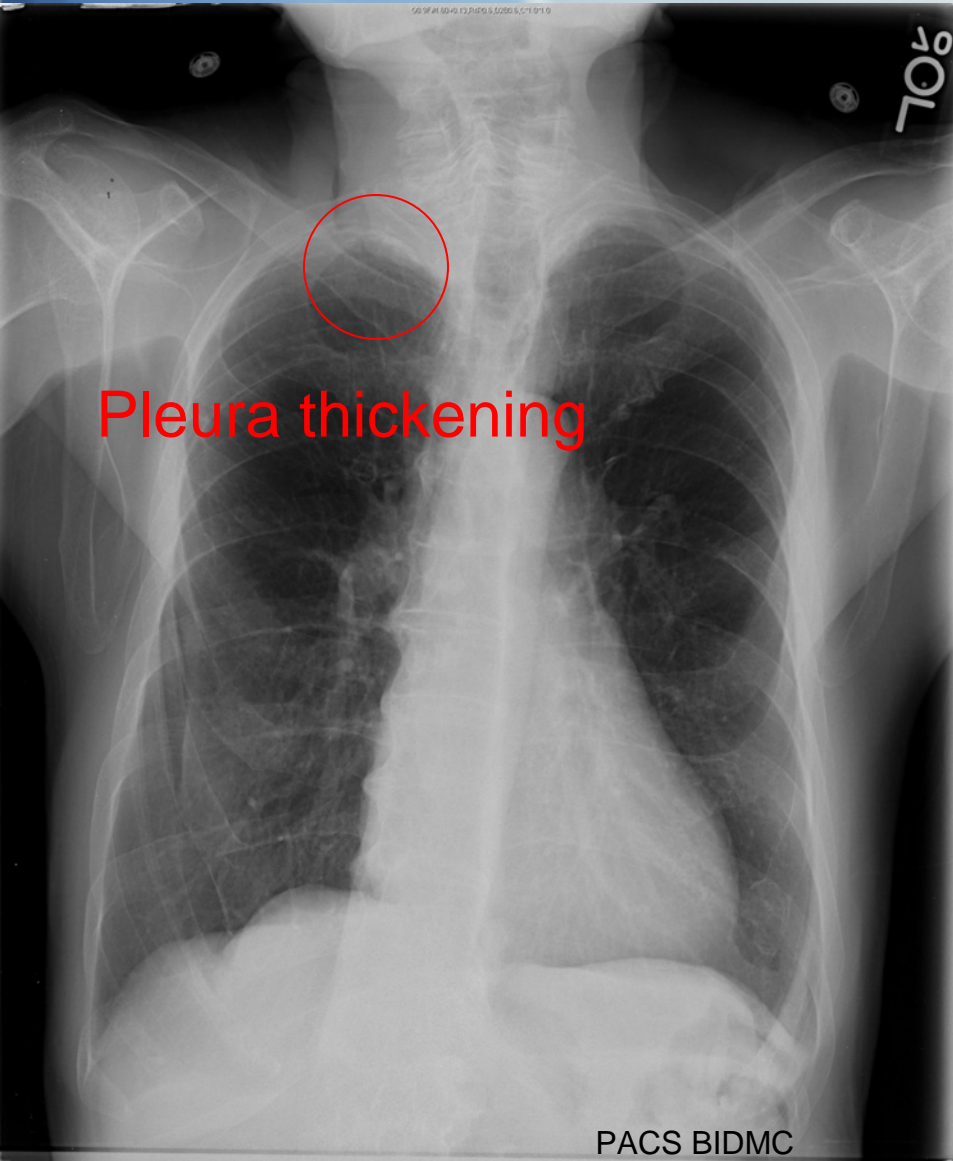


Common causes of pleuritic pain

- Pneumonia
- Infarction / Embolism
- Neoplasm
- Rib fracture
- Muscle strain
- Early Herpes zoster reactivation
- Rare disease like Bornholm disease



Chest radiograph

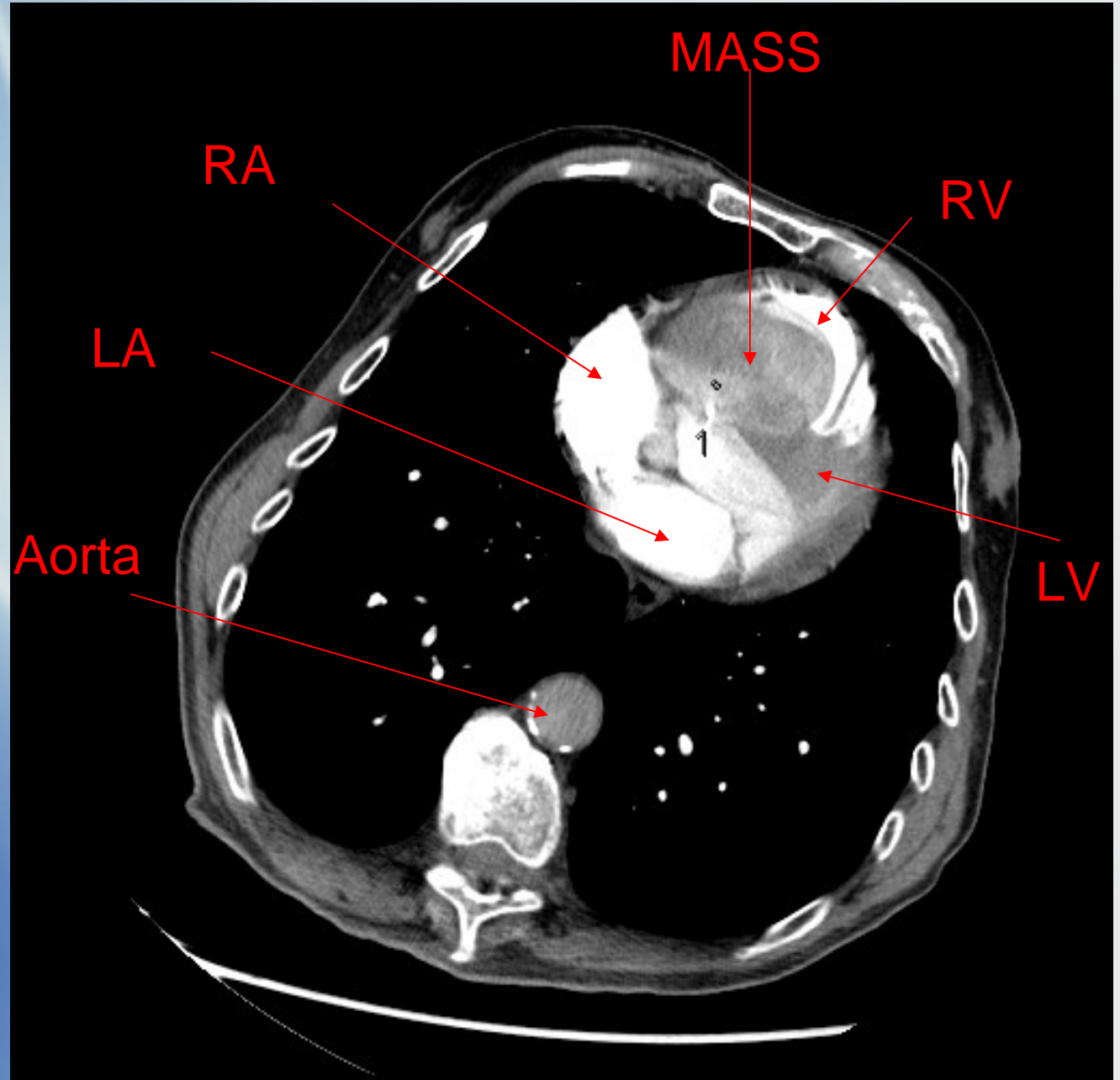
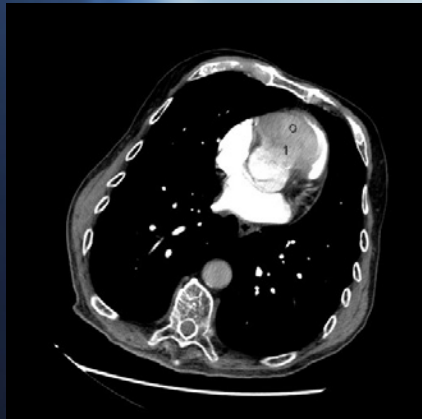
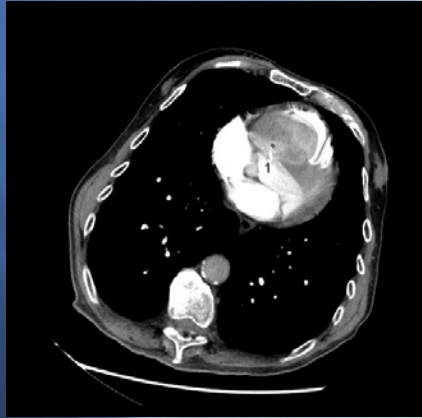




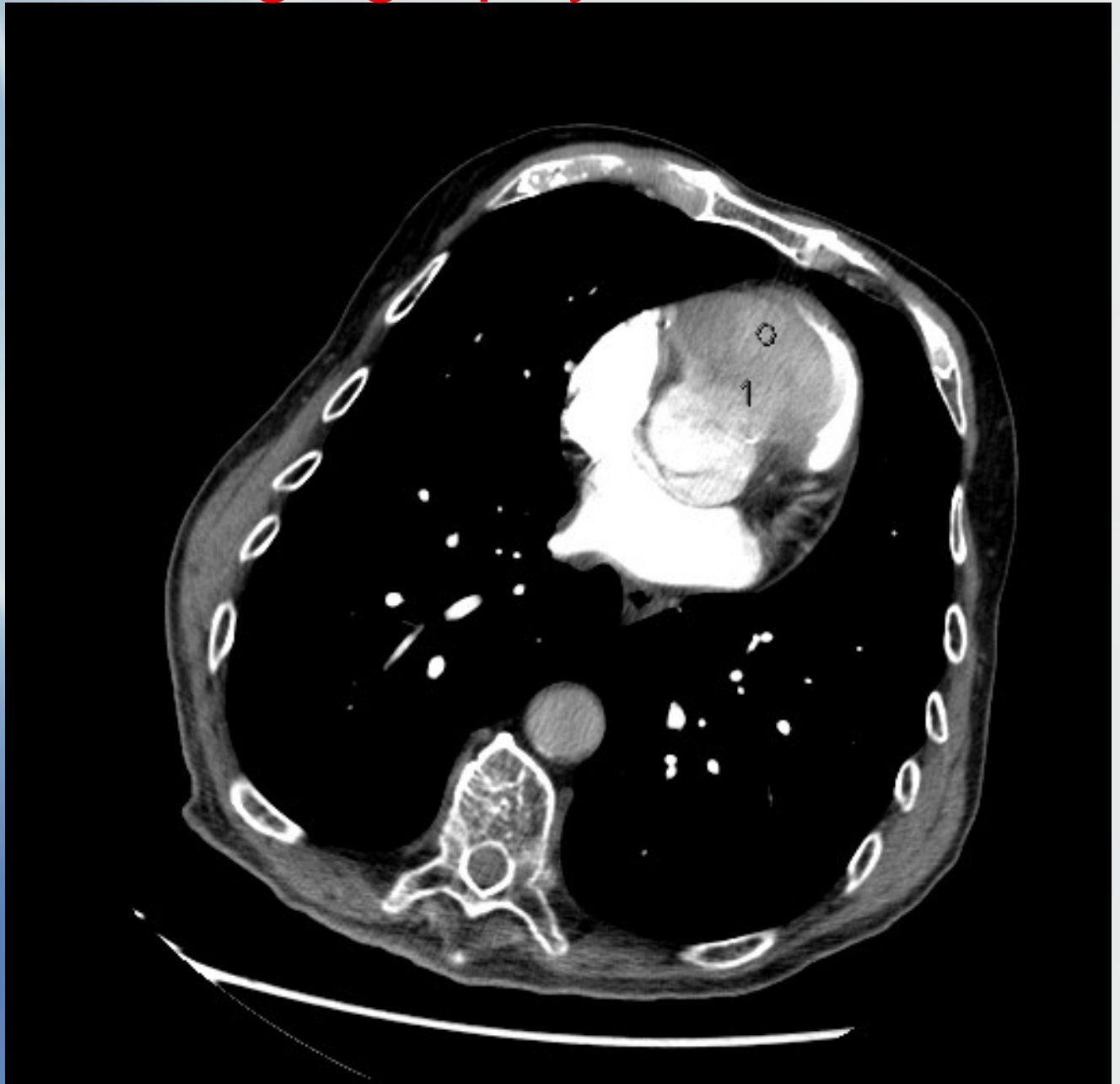
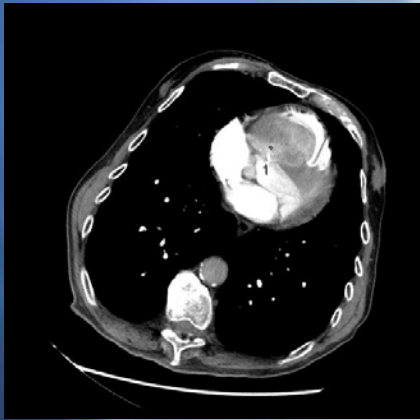
Chest radiographic findings

- Pleura thickening found on chest radiograph 2 years ago, no obvious interval changes
- Increased AP diameter and diaphragm flattening consistent with emphysema
- Heart slightly enlarged for a COPD patient

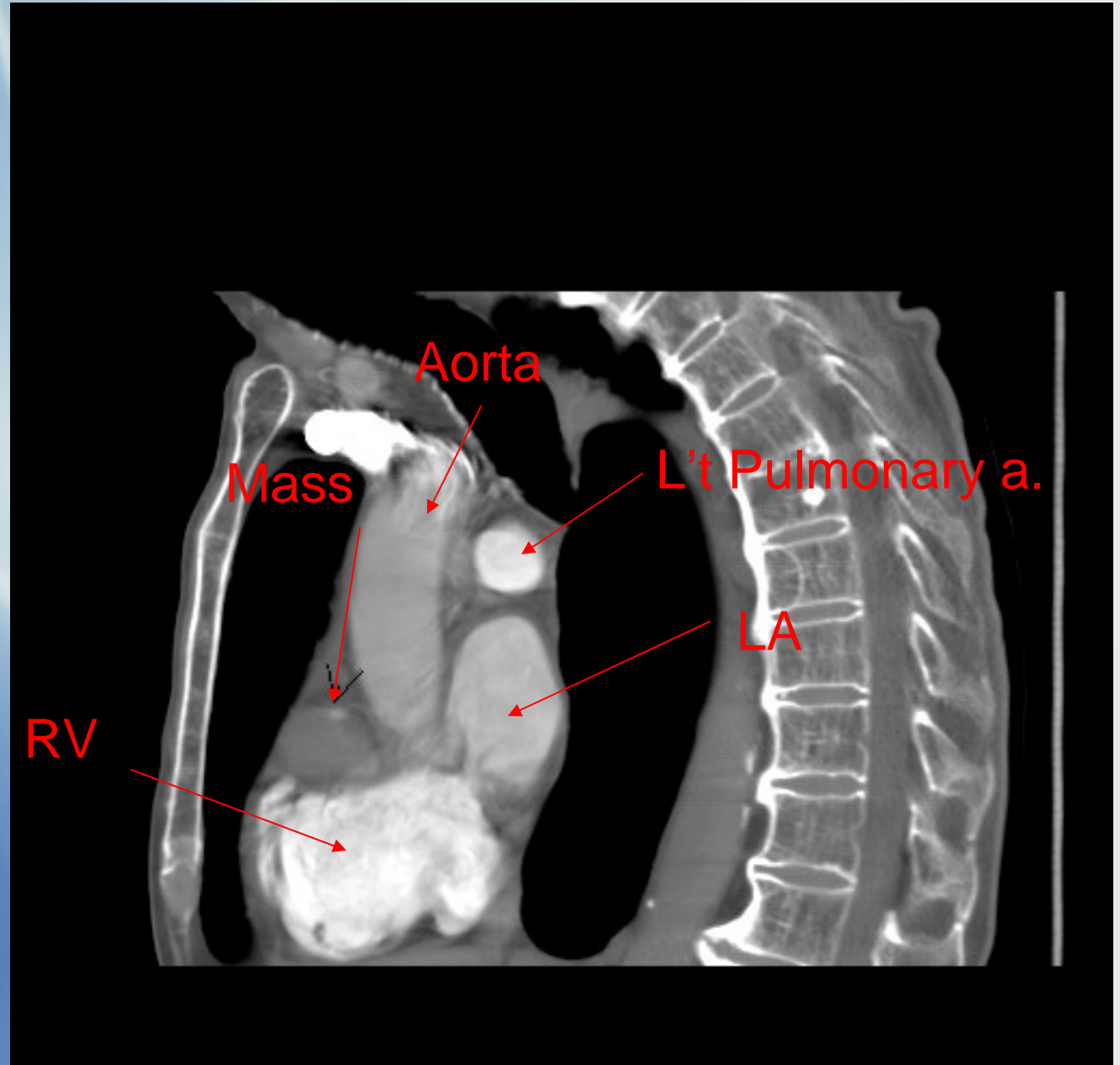
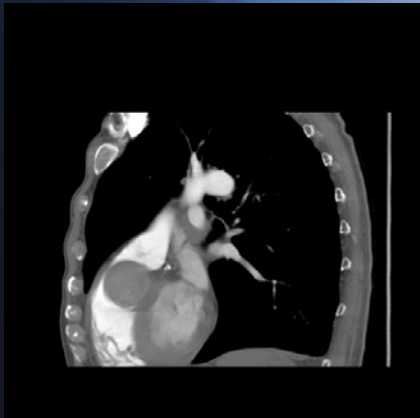
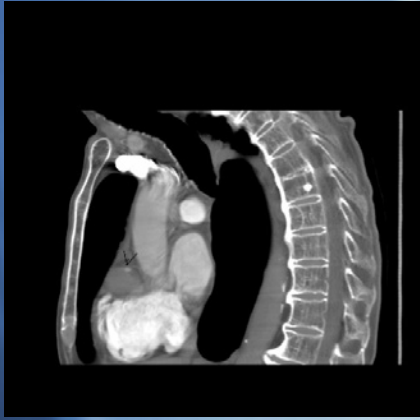
CT Angiography



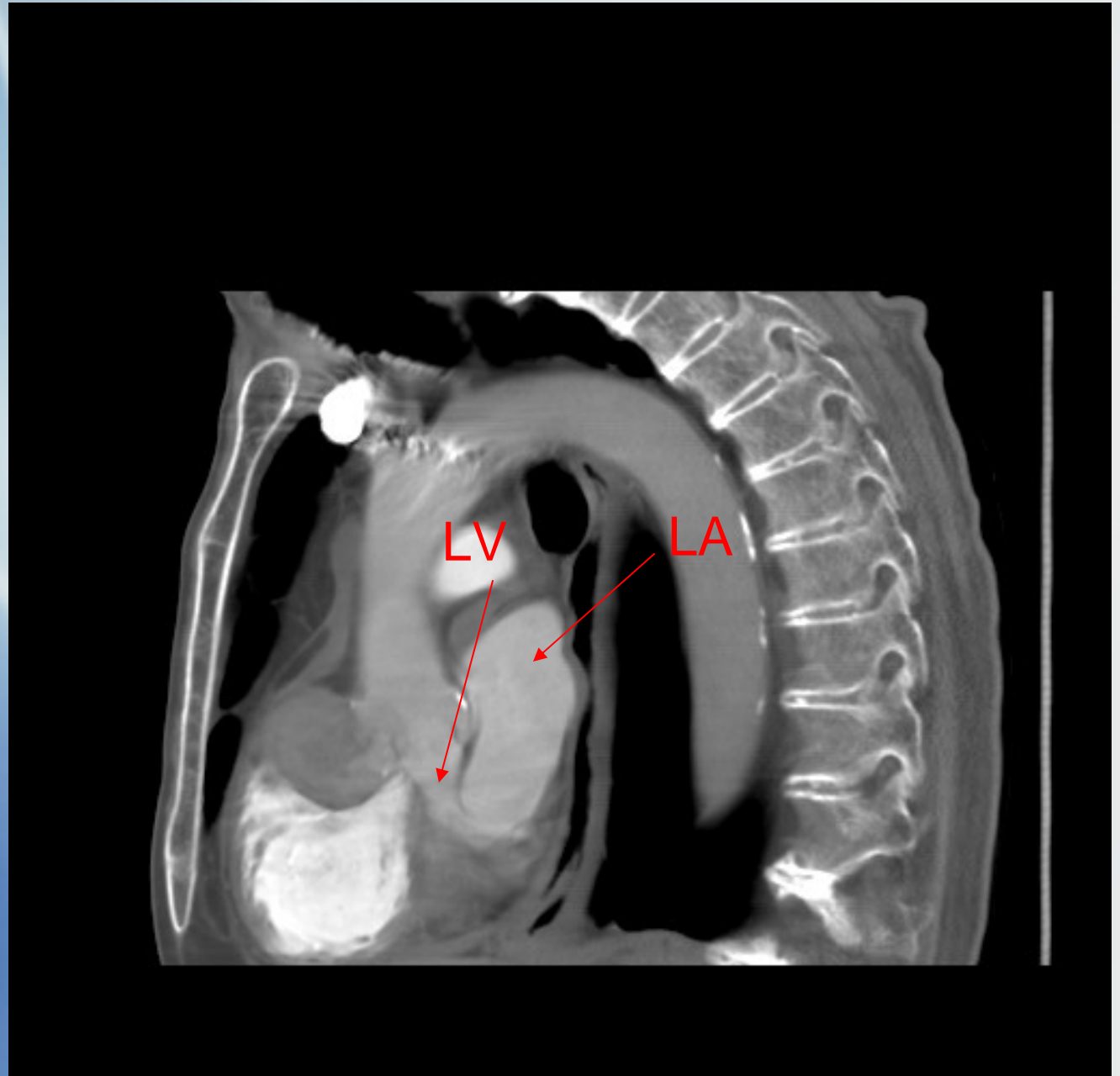
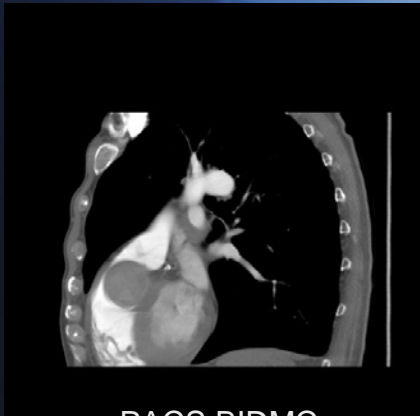
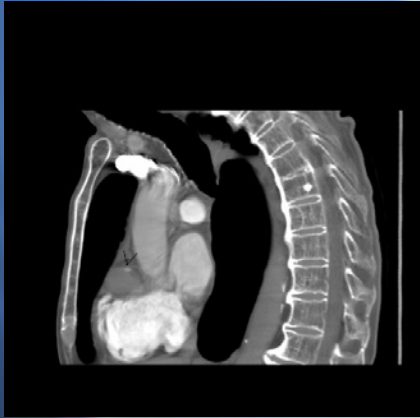
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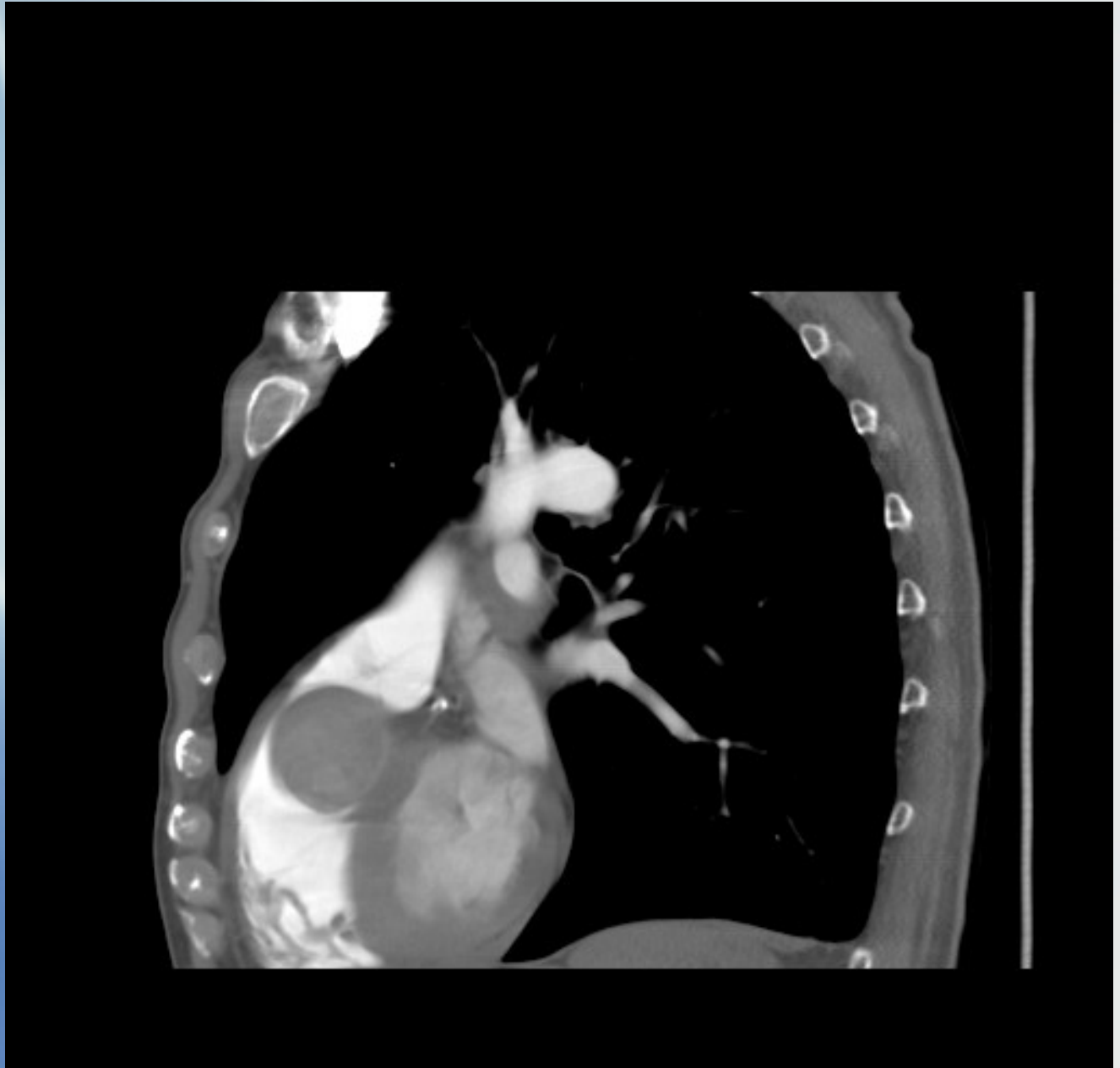
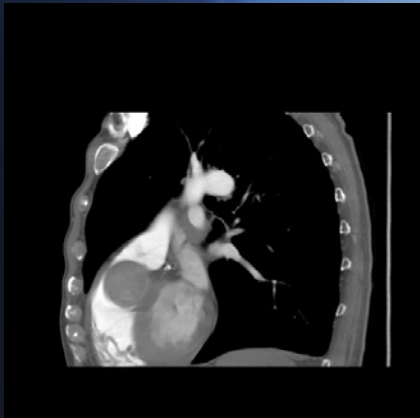
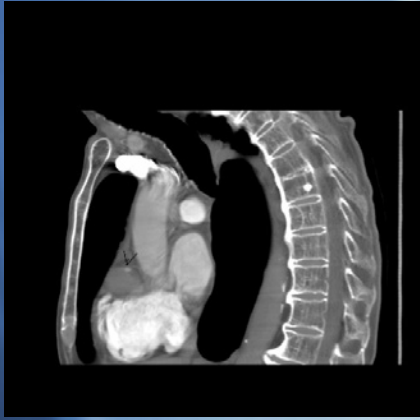
CTA sagittal reconstruction



CTA sagittal reconstruction



CTA sagittal reconstruction





Differential diagnosis

Intracardiac enhancing mass
within the right ventricular outflow tract,
which could be:

- Primary heart tumor - ex: myxoma
- Metastatic tumor
- Aneurysm
- Thrombus



- Some more information about

Sinus valsalva aneurysm

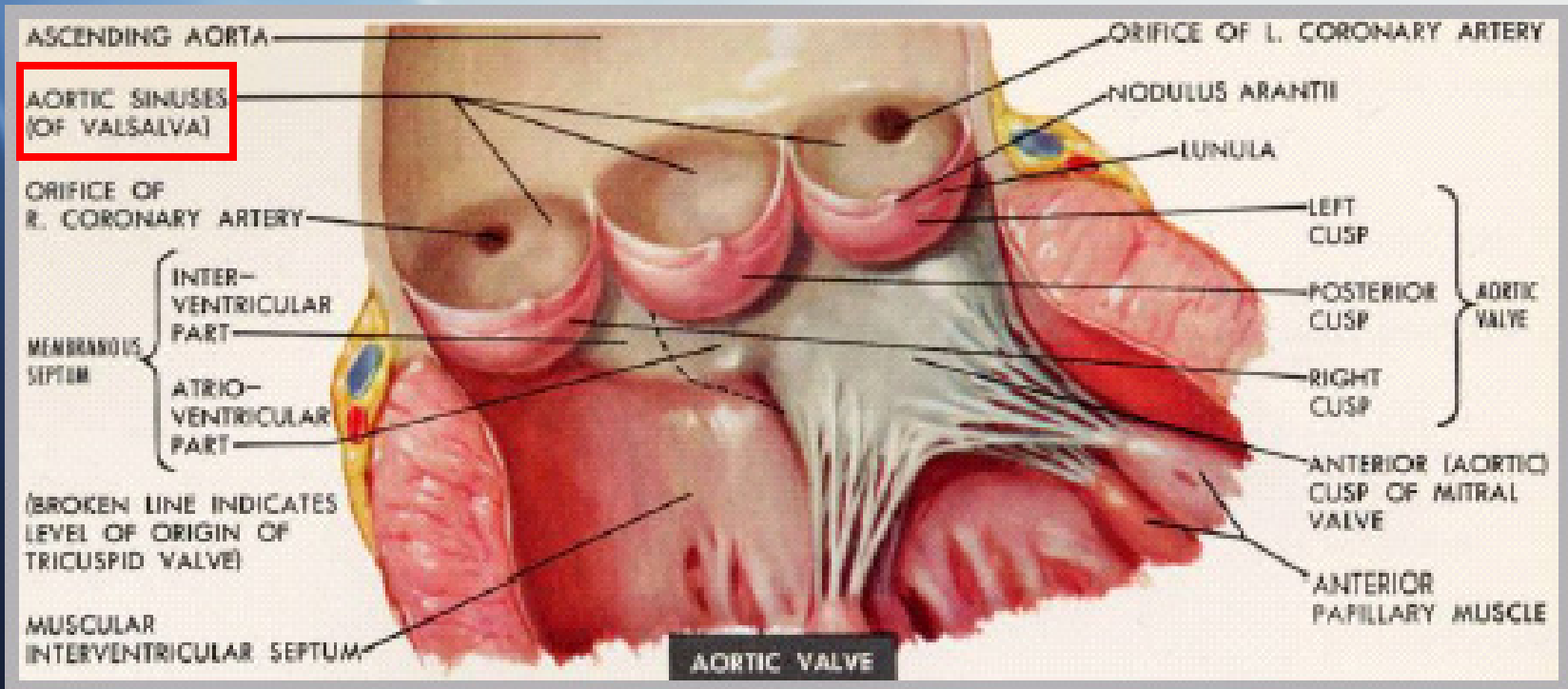


Epidemiology

- Prevalence: US: 0.09% during autopsy, higher in Asia.
- Mostly congenital
- Male/female ratio = 4:1
- 75~90% on Right cusp, then the non-coronary cusp, rare on left
- Average age of ruptured ones is 30



Pathophysiology



- From incomplete fusion of the distal bulbar septum which divides the aorta and pulmonary artery during embryological development



Acquired Sinus Valsalva Aneurysm

Rare, more often on left cusp, common
etiology including:

- Bacterial endocarditis
- Trauma
- Syphilis
- TB
- Behcet disease



Clinical presentation

- No-rupture: asymptomatic, or angina, syncope or dizziness due to coronary and conduction system compression
- Small rupture: asymptomatic or s/s of progressive heart failure
- Massive rupture: acute chest pain with dyspnea, s/s like acute MI



Radiographic findings

- Not apparent on chest radiograph, occasionally R't mediastinum contour change, enlarged heart size
- 2-D Dopplar echo as the principal technique to diagnose
- CT and MR helpful in the planning of appropriate surgical or transcatheter approach.



Acknowledgement

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