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

- Pleura thickening
- Increased AP diameter
- Diaphragm flattening
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
CTA sagittal reconstruction

Aorta
Mass
L’t Pulmonary a.
LA
RV
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 Doppler echo as the principal technique to diagnose
- CT and MR helpful in the planning of appropriate surgical or transcatheter approach.
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References

- Heart tumor, Harrison’s online