Case of the Month – April 2014

• 57 year old female trauma patient. Incidental finding on Trauma CT.

• Investigations reveal:
  – Normal vital signs.
  – Normal blood work
  – No hemoptysis.

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Contrast Enhanced CT of the Chest

• What are the imaging findings?
• What is the differential diagnosis? Diagnosis?
Axial Image
Sagittal and Coronal Images
Findings

- Focal saccular aneurysmal dilatation of the main pulmonary trunk (best appreciated on axial and sagittal planes).
- Normal mediastinum.
- Chronic left main pulmonary artery embolism also noted.
Differential Diagnosis

• Pulmonary Artery Pseudoaneurysm?
• Pulmonary Artery Aneurysm?
• Pulmonary Arteriovenous Malformation (AVM)?
• Other?
Diagnosis

- Findings are most in keeping with **Pulmonary Artery Pseudoaneurysm** which are often identified incidentally.
- Pulmonary artery aneurysm is also a possibility although this classically demonstrates fusiform morphology.
- No nidus, feeding drain, or supplying artery to suggest pulmonary AVM.
Discussion

• Rare entity (1 in 14 000 – 100 000), M>F
• Characterized by focal dilatation of the pulmonary artery which does not involve all 3 layers of the wall.
• Majority involve the main pulmonary arteries. Normal pulmonary artery should not measure >29 mm and right interlobar artery >17 mm.
• Patients may present with massive hemoptysis and chest pain if ruptured.
• At higher risk of rupture than a pulmonary aneurysm (due to weakened wall) with mortality up to 50% if rupture occurs.
Discussion

• Etiology:
  – Pulmonary Pseudoaneurysms
    • Iatrogenic (Swan-Ganz Catheters, Chest Tubes, Trauma, Angiography, Biopsy)
    • Infectious (Postprimary TB leading to Rasmussen aneurysm, infective endocarditis)
    • Neoplasm (lung CA or metastases erode into arterial system, leiomyosarcoma/angiosarcoma rare cause of aneurysm)
  – Pulmonary Aneurysms (in addition to the causes of pseudoaneurysms)
    • Vasculitides (Behcets Disease, Hughes-Stovin),
    • Connective Tissue Disorders (Marfan’s, Ehlers-Danlos)
    • Causes of Pulmonary Arterial Hypertension

• Treatment:
  – embolization, stenting, surgical ligation, watch and wait
References


• StatDx.com – Pulmonary Artery Pseudoaneurysm