56 yo M PMH hepatitis, HTN admitted for SOB and anasarca, found to have a hepatic lesion on ultrasound.

Indication: hepatic mass, evaluate for metastasis

MRN 1127240
Radiographic Findings

• Chest CT showed RA mass
• Cardiology started a heparin drip
  • High possibility of atrial mass being a thrombus
• Follow-up echo revealed
  • pulmonary hypertension (COPD, cirrhosis, positive bubble study/ASD)
  • severe RV dilatation and failure
  • RA severely dilated, no mass visualized
Right atrial mass differential

- Thrombus
- Myxoma
- Cardiac metastasis
- Cardiac lipoma & lipomatous hypertrophy of the interatrial septum
- Primary malignant cardiac tumor
Thrombus

- Posterolateral atrium or appendage
- Afib
- Acute
  - does not enhance
- Chronic
  - slight peripheral enhancement
- Mobile
  - Do not prolapse through valve
Myxoma

- Most common of all primary cardiac neoplasms
- Originates from interatrial septum near fossa ovalis
- 60-75% left atrium→ right atrium
- 50% right atrial are calcified
- Mobile
- May prolapse through atrioventricular valve
Cardiac metastasis

- 40x more common than primary
- Malignant pericardial effusion
- RA & RV
- Calcifications rare: Osteosarcoma, chondrosarcoma
- Fat: liposarcoma
- Lymphatic spread
  - Most common
  - Lung & breast
- Hematogeneous: melanoma
- Direct extension: lung cancer
- Transvenous spread
  - IVC from RCC, HCC, adrenal or uterine
  - Pulmonary vein from lung cancer
Lipomatous hypertrophy of the interatrial septum

- Fat density
- Dumbbell shaped
- Spare fossa ovalis (vs. lipoma)
Primary malignant cardiac tumor

- **Cardiac sarcoma**
  - Angiosarcoma (highly vascular)
  - Osteosarcoma (invades interatrial septum)
  - Leiomyosarcoma (pulmonary venous extension)
  - Synovial sarcoma

- **Mesothelioma**
  - Pericardium

- Right atrium > left atrium

- Pericardial effusion

- Lung metastasis