



Atrial Mass: Case Presentation of Primary Cardiac Neoplasm

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Introduction

- The occurrence of a primary cardiac malignancy is exceptionally rare.
- Of these, angiosarcoma is the most commonly seen histological subtype, known well for its' invasive behavior.¹
- Overall, a diagnosis of cardiac angiosarcoma carries with it a poor prognosis.
- However, there have been tremendous advances made in the ability to view and distinguish tumors.



Image 1:
Apical 4 chamber view TTE with no apparent atrial or ventricular masses noted.



Image 2:
Mid esophageal 2 chamber view TEE clearly delineates a large left atrial mass.

Case Description

- 89-year-old male with atrial fibrillation on apixaban, aortic stenosis with recent transcatheter aortic valve replacement (TAVR) (01/2020), prior embolic stroke (04/2020), hypothyroidism, BPH presenting June 2020 found to have a *Streptococcus bovis* bacteremia.
- In the setting of bacteremia, evaluation for endocarditis was pursued with echocardiography.
- An initial Transthoracic echocardiogram (TTE) was unremarkable, with subsequent Transesophageal echocardiogram (TEE) demonstrating a large left atrial mass.
- A cardiac MRI confirmed a large lobulated mass in the left atrium which extended into the left lower lobe pulmonary vein.
- Cardiology consult did not recommend a cardiac biopsy due to it being a high risk procedure.
- Staging CT of the chest, abdomen, and pelvis was obtained with metastatic disease in lower pole of the left kidney well as multiple nodules in the left lower lobe.
- CT-guided biopsy of the left renal mass confirmed malignant spindle cell neoplasm, consistent with high-grade sarcoma.



Image 3 (left):
Contrast image performed via TEE shows vascularity within intra-atrial mass.

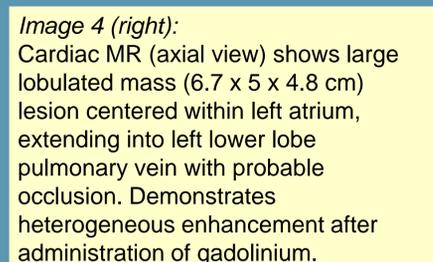
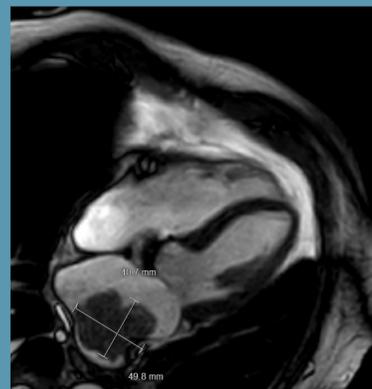


Image 4 (right):
Cardiac MR (axial view) shows large lobulated mass (6.7 x 5 x 4.8 cm) lesion centered within left atrium, extending into left lower lobe pulmonary vein with probable occlusion. Demonstrates heterogeneous enhancement after administration of gadolinium.



Discussion

- Angiosarcomas are known for their rapidly progressive nature.²
- Recent TAVR in January 2020, at which time no atrial mass was present indicating tumor advancement in sheer months.
- TEE has been known for superior image resolution with better visualization of posterior cardiac structures.³
- Cardiac MRI aids in distinguishing between thrombi and tumors within cardiac chambers.⁴
- This case further necessitates the utility of a multimodal approach to non-invasively characterize a cardiac mass, which has been instrumental in achieving an earlier diagnosis of cardiac angiosarcoma.
- Due to advanced stage at diagnosis and aggressive course of disease,¹ complete surgical resection has been challenging.
- Furthermore, the exact benefit of adjunctive chemotherapy and/or radiation is still unknown.
- Nonetheless, until further research into angiosarcoma mutations and potential target drugs are identified, prognosis remains poor.

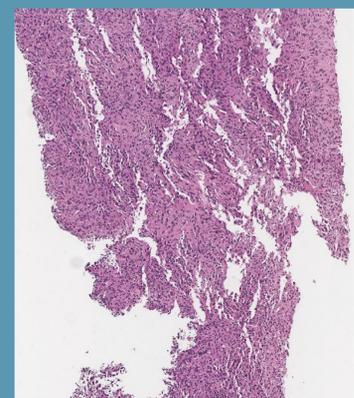


Image 5 (top):
Low power view demonstrating densely cellular neoplasm.

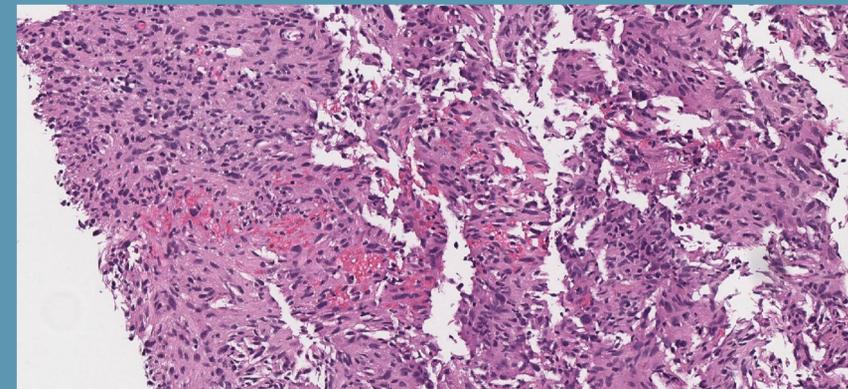


Image 6 (bottom):
High power view showing polygonal and spindle tumor cells with slit-like channels and extravasated red cells.

Discussion (continued)

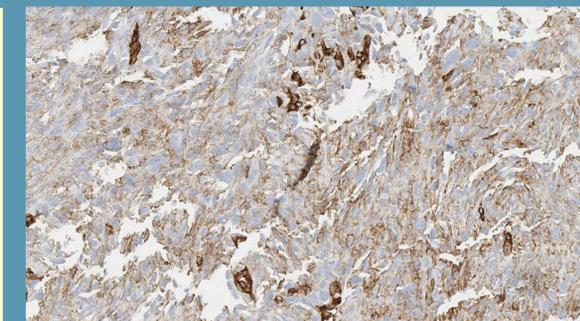


Image 7:
CD31 immunohistochemistry with cytoplasmic and membrane staining of tumor cells.

References

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Disclosures

No Disclosures