

Control Number: 12

Abstract Category: Clinical Case Challenge in Cardio-Oncology

Title: The Importance of Tissue Diagnosis – A Case of Positron Emission Tomography-Positive Cardiac Mass Mimicking a Cardiac Malignancy

ABSTRACT BODY

Background and Purpose

Non-oncological cardiovascular diseases can mimic a cardiac tumor. It is paramount to obtain a tissue diagnosis when evaluating a patient with a cardiac mass.

Case Description and Outcomes

A 64-year-old woman with autoimmune cholangitis on chronic treatment with azathioprine presented with progressive dyspnea. Evaluation revealed an abnormal stress electrocardiogram and abnormal echocardiogram showing a left ventricular mass and a pseudoaneurysm (image A-B). She underwent a left heart catheterization, showing insignificant coronary artery disease and left ventriculogram demonstrating an aneurysmal anterolateral wall and increased vascularity feeding it (image C-D). Cardiac magnetic resonance (CMR) imaging re-demonstrated the pseudoaneurysm in the anterolateral wall as well as thickening of the basal anterior wall with gadolinium enhancement suggestive of a malignancy with differential diagnoses including sarcoma, mesothelioma, poorly differentiated tumors and primary cardiac lymphoma (image E-F). The positron emission tomography (PET) showed hypermetabolic activity of the anterior left ventricular wall and the pseudoaneurysm, along with an uptake in the left axillary lymph nodes (image G-H). Meanwhile, she developed monomorphic ventricular tachycardia needing cardioversion and was started on amiodarone. Given concern of rupture, pseudoaneurysm repair was recommended along with endomyocardial biopsy for tissue diagnosis. Median sternotomy was pursued to allow visualization and mass resection. Intraoperatively, an infiltrative cardiac mass affecting the anterior left ventricular wall was visualized (image I) along with two pseudoaneurysms. Multiple frozen biopsies of the mass were obtained and were negative for malignancy. She then underwent left ventricular aneurysmectomy with patch repair. The pathology of the resected pseudoaneurysms showed predominant necrotizing granulomatous inflammation and focal non-necrotizing granulomas with foreign body giant cells and fibrosis (image J-K). Immunostatin was negative for lymphoid neoplasm.

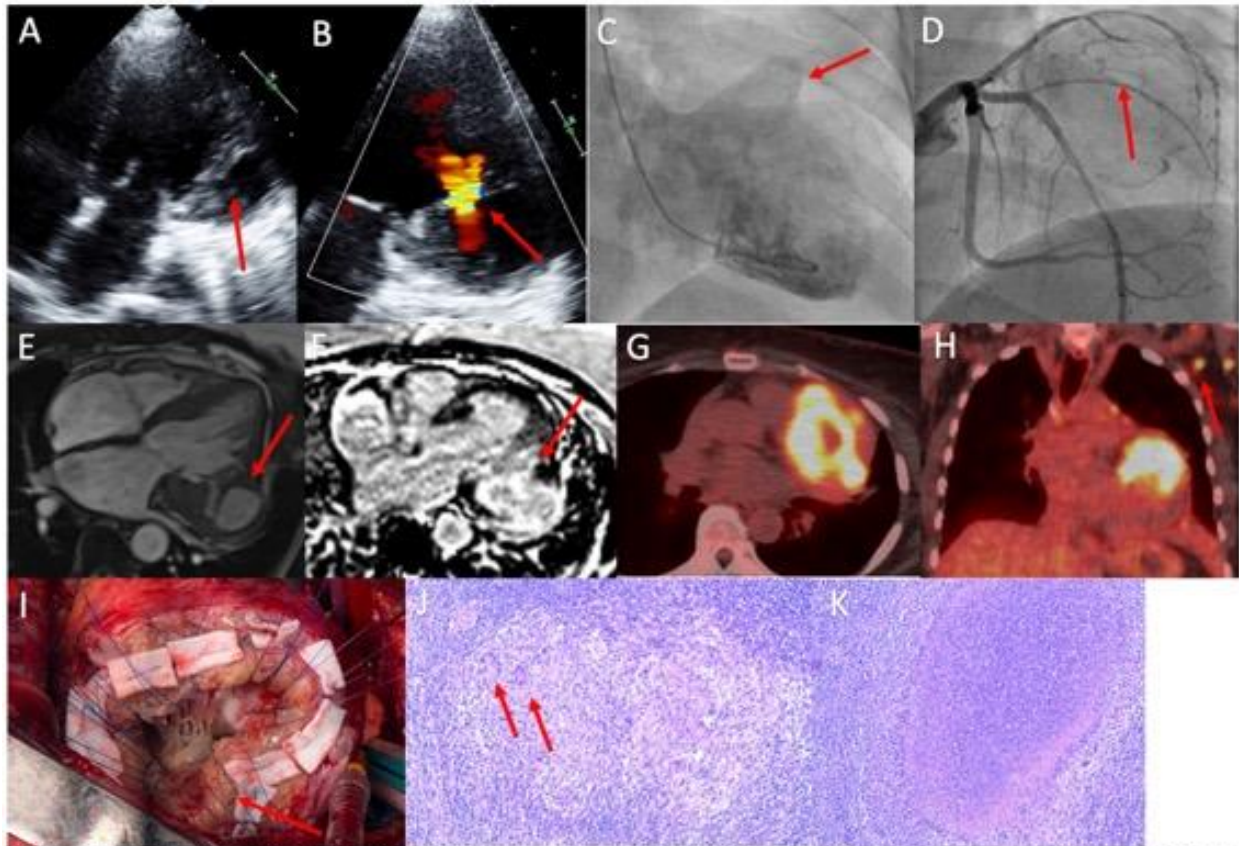
Discussion

Granulomatous diseases such as cardiac sarcoidosis, an infiltrative cardiomyopathy, can mimic cardiac malignancy due to similar findings on CMR and PET scan. Obtaining a tissue diagnosis is paramount for proper treatment.

References

1. Hammen I, et al. Systemic sarcoidosis mimicking malignant metastatic disease. *Eur Clin Respir J.* 2015;2:26761.
2. Li Z, et al. Sarcoidosis misdiagnosed as malignant tumors: A case report. *World J Surg Oncol.* 2015;13.

Image 1



A. Four chamber view of echocardiogram showing a pseudoaneurysm in the lateral wall. B. Doppler imaging of the pseudoaneurysm. C. Left ventriculogram showing the pseudoaneurysm. D. Increase vascularity of the anterolateral wall. E-F. CMR showing the pseudoaneurysm. G-H. PET scan showing uptake of the cardiac mass and lymph nodes (H). I. Intraoperative image of the aneurysm and the thickened walls. J. Pathology of the resected pseudoaneurysm showing a non-necrotizing granuloma with foreign body giant cells (arrows). K. Pathology of the pseudoaneurysm showing a necrotizing granuloma.