

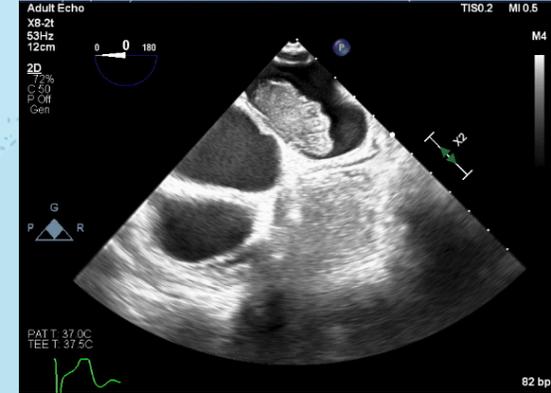
A Cryptic Cause of Non-Cryptogenic Stroke

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Introduction

- Ischemic stroke secondary to atherosclerosis is the most common type of cerebrovascular accident.
- Management includes risk reduction as well as statin and antiplatelet therapy.
- Anticoagulation is reserved for hypercoagulable states and cardioembolic sources.
- Rarely, source resection is required to prevent recurrent stroke.
- Cardioembolic sources commonly include pseudotumors such as left atrial appendage thrombus in patients with occult atrial fibrillation and metastatic tumors from malignancy.
- Seldom, primary benign cardiac tumors can be a source of cryptogenic stroke.
- Appropriate history taking and diagnostic testing is necessary to decrease patient morbidity and mortality and improve quality of life.
- Here we present a case of cardioembolic stroke secondary to de-novo left atrial myxoma.



Figures 1/2: Transesophageal view showing mobile cardiac myxoma within left atrium

Case Presentation

- 66-year-old male with no significant past medical history presented to our hospital complaining of 24 hours of sudden onset blurry vision and unsteady gait.
- Physical exam demonstrated focal neurological deficits in extraocular movements and ataxia prompting a stroke alert.
- Neuroimaging revealed bilateral cerebellar strokes.
- Electrocardiogram showed sinus bradycardia without acute abnormalities.
- Troponins demonstrated an acute myocardial injury pattern.
- Transesophageal echocardiogram (TEE) to rule out occult cardioembolic source revealed a large mobile, pedunculated mass measuring 4cm by 2cm in the left atrium along the interatrial septum concerning for cardiac myxoma.
- There was no other evidence of intra-cardiac thrombus, vegetation, or interatrial shunting by agitated saline bubble study or color flow Doppler.
- As a result, the patient was taken for surgical mass resection by the cardiothoracic team.
- Intra-operatively, the cardiac mass appeared as polypoid attached to the interatrial septum with multiple fronds.
- Pathology report revealed a soft and friable mass with a gelatinous and shiny appearance with spotty hemorrhage on the surface, while biopsy demonstrated a myxomatous matrix with a mucopolysaccharide-rich stroma confirming cardiac myxoma.

Discussion

- Cardioembolic stroke occurs in 20% of stroke patients with the most common causes being thrombi, tumors, and vegetations; of those only 0.5% are due to cardiac myxoma, however other presentations include arrhythmias, syncope, or even sudden cardiac death secondary to valvular or outlet obstruction.
- Echocardiography, with its 95% sensitivity on surface echocardiogram and 100% sensitivity on TEE, remains the gold standard to assess for cardiac myxoma location, size, attachment, and mobility as 75% arise in the left atrium along the interatrial septum near the fossa ovalis.
- Embolism occurs in about 40% of patients with cardiac myxomas given its ability to produce vascular endothelial growth factor with nearly 50% of them having neurologic manifestations.
- Therefore, management with prompt surgical resection with negative margins regardless of symptomology is required; peri-operative anticoagulation remains controversial.
- Post-operative recurrence rate is 1-3%, necessitating long-term follow-up with echocardiography.
- This case highlights an example of a rare cause of stroke that can present in someone without classical risk factors.