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Images in Hospital Medicine

New Onset Heart Failure due to Left Atrial Myxoma

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Abstract

Left atrial myxomas are rare cardiac tumors typically presenting with constitutional, obstructive, or embolic symptoms, often managed surgically with positive clinical outcomes. We describe a case of an 88-year-old woman presenting status post fall due to exertional dyspnea and progressive lower extremity edema, found to have an elevated HS-troponin, BNP, and a large left atrial mass on echocardiogram consistent with a cardiac myxoma. Given high surgical risk, palliative care was pursued. This case underscores the need to consider left atrial myxomas in new-onset heart failure.

An 88-year-old woman with hypertension and hyperlipidemia presented to the emergency department after a fall. She denied any trauma or loss of consciousness at the time of the event. Prior to the fall, she experienced no palpitations, chest pain, dizziness, or other prodromal symptoms and had no history of similar events. She attributed her fall to worsening leg swelling over the past three weeks and reported increasing dyspnea on exertion during this period.

Her physical exam was remarkable for elevated jugular venous pressure at 30 degrees, a holosystolic murmur in the apex, and lower extremity edema. Workup revealed an elevated HS-troponin (1668 ng/L, n: <20 ng/L) and BNP levels (2540 pg/ml, n: <78 pg/ml). EKG with no acute ischemic changes, with normal sinus rhythm, P wave <120 ms, QRS segment <120 ms, and an incomplete RBBB. A chest X-ray indicated bibasilar atelectasis and small bilateral pleural effusions. An ultrasound was negative for deep venous thrombosis. She was admitted for volume overload with a concern for new-onset heart failure. Treatment with IV furosemide improved her bilateral lower extremity edema and dyspnea on exertion.

Despite clinical improvement, an echocardiogram revealed a left ventricular ejection fraction (LVEF) of 55-60% and a large mass (6 cm x 3 cm) in the left atrium, suggestive of a cardiac myxoma (**Figure 1**). Cardiothoracic surgery was consulted for resection, but the surgical mortality risk was estimated at approximately 30% due to her age and comorbidities. After a goals-of-care discussion, the patient chose not to pursue surgery and opted for palliative care and symptom management. She was placed on anticoagulation for embolic prevention and furosemide as needed for supportive care.

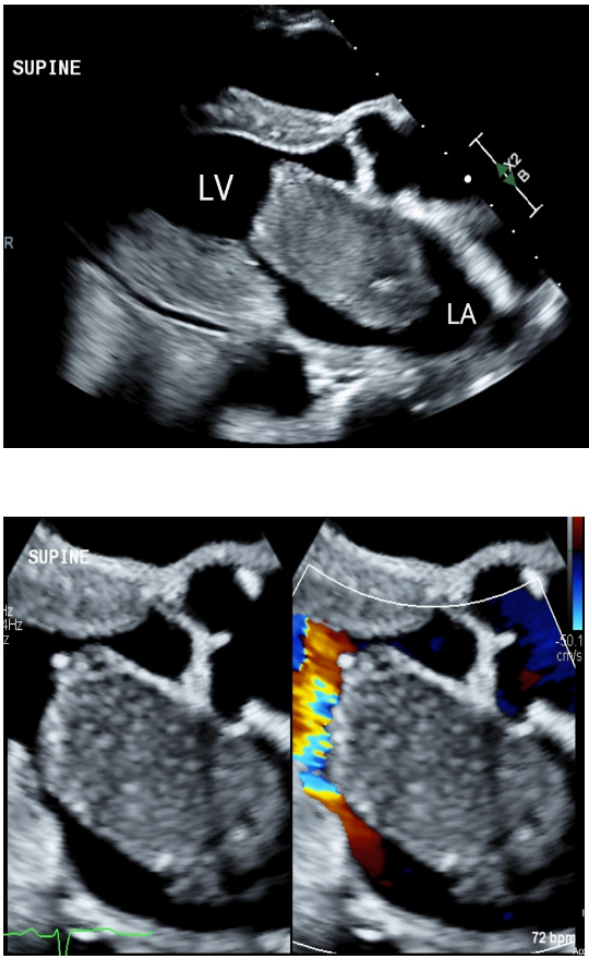

Figure 1. Top Panel: Parasternal View. Bottom Panel: (Left) Closer view to suspected myxomatous left atrial mass (Right): With color doppler

Cardiac tumors are classified as either primary or secondary, with secondary tumors often being metastatic. Among primary cardiac tumors, approximately 75% are benign,[1,2] including myxomas, papillary fibroelastomas, lipomas, rhabdomyomas, and fibromas. Cardiac myxomas are rare, with a reported prevalence of 0.03% in the

general population.[3] About 75% of myxomas originate from the left atrium, usually from the fossa ovalis.[4]

Myxomas can present with a triad of obstruction, emboli, and constitutional symptoms. Left-sided myxomas can cause mitral valve obstruction, regurgitation, or heart failure, leading to symptoms such as dyspnea, orthopnea, paroxysmal nocturnal dyspnea, peripheral edema, pulmonary edema, syncope, and sudden cardiac death due to obstruction.[5] Left-sided myxomas are also associated with an increased risk of systemic embolization, which can lead to transient ischemic attacks, strokes, or seizures. Emboli can affect other sites such as the retina, kidneys, mesentery, coronaries, aorta, and lower limbs.[6] Constitutional symptoms can include fatigue, fever, arthralgia, myalgia, and weight loss.

Cardiac myxomas are usually treated with surgical resection, which typically has good outcomes. The post-tumor excision early mortality rate is 1.27%, and the late mortality rate is 4.7% per 1000 person-years.[7] Non-surgical management is limited to conservative periodic monitoring due to the nature of the tumor and the potential complications.[8] Emerging medical therapies like tyrosine kinase inhibitors showcase promise but have not yet been standardized.[9]

Author Contributions

All authors have reviewed the final manuscript prior to submission. All the authors have contributed significantly to the manuscript, per the International Committee of Medical Journal Editors criteria of authorship.

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Disclosures/Conflicts of Interest

The authors declare they have no conflicts of interest

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