

Title:

Recurrent Syncope, Atrial Fibrillation and Obstructive Massive Left Atrial Myxoma: Benign Tumor with Malignant Hemodynamics

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Background:

Left atrial (LA) myxomas, the most common primary cardiac tumor, typically manifest with symptoms from local mass effects, particularly mitral inflow obstruction, resulting in LA enlargement, decreased left ventricular (LV) filling and rapid reductions in cardiac output. Atrial fibrillation (AFIB), a common complication of LA dilation, further impairs LV filling with loss of atrial systole. We present the case of a patient with recurrent syncope found to have paroxysmal AFIB and a massive obstructive LA myxoma.

Clinical Case:

A 53-year-old male with past medical history of hypertension, diabetes mellitus, and polysubstance abuse presented with recurrent syncope. He was hemodynamically stable, and cardiac exam did not reveal any murmurs or tumor plops. Initial EKG was notable for sinus rhythm with LA abnormality (figure 1). Transthoracic echocardiography revealed a LA mass prolapsing across and obstructing mitral inflow during diastole (figure 2). Telemetry later revealed paroxysmal AFIB. Cardiac computed tomography demonstrated the prolapsing and attachment to the interatrial septum (figure 3). He underwent surgical excision of a 5.8 x 4.0 x 3.8 cm tumor (figure 4), with intraoperative transesophageal echocardiography (figure 5) redemonstrating the obstructive physiology of the myxoma. Histopathologic analysis (figure 6) revealed stellate myxoma cells and heterogeneous cellular and myxoid background, confirming the diagnosis of myxoma.

Conclusion:

Cardiac tumors, while exceedingly rare and typically benign, can present with malignant hemodynamic manifestations from direct valvular, myocardial, and coronary obstructive mass effects, which can be further exacerbated by atrial and ventricular tachyarrhythmias.

References:

1. Tyebally S, Chen D, Bhattacharyya S, et al. Cardiac Tumors: JACC CardioOncology State-of-the-Art Review. *J Am Coll Cardiol CardioOnc.* 2020; 2(2): 293-311.
2. Maleszewski JJ, Bois MC, Bois JP, et al. Neoplasia and the Heart: Pathological Review of Effects with Clinical and Radiological Correlation. *J Am Coll Cardiol.* 2018; 72(2): 202-227.