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Asymptomatic Patient with an Uncommonly Located Myxoma in the Left Ventricle Attached to Chordae Tendinae

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Abstract Cardiac tumors are rare disorders with an incidence of <0.33%. Primary cardiac tumors are extremely rare with an incidence between 0.0017% and 0.19%. Nearly 75% of cardiac tumors are benign with atrial myxomas representing nearly 50%. The majority of cardiac myxomas (75%) are located in the left atrium, 23% in right atrium and 2% in the ventricular cavity. This report presents a rare case of an asymptomatic patient with a left ventricular myxoma attached to the chordae tendinae of the mitral valve.

Keywords: *myxoma, left ventricle, cardiac tumor, chordae tendinae*

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1. Introduction

Cardiac tumors are rare disorders with an incidence rate <0.33%. They can be classified as primary or secondary depending on the origins of the tumor [1]. Primary cardiac tumors make 5% whereas secondary cardiac tumors represent 95% of all cardiac tumors [2]. Approximately 75% of cardiac neoplasms are considered benign; of these, about 50% are myxomas [3]. The majority of cardiac myxomas (75%) are located in the left atrium, 23% in right atrium and 2% in the ventricular cavity [4]. These tumors usually arise from the fossa ovalis of the inte-ratrial septum [5].

This report presents a rare case of a left ventricular myxoma attached to the chordae tendinae of the mitral valve.

2. Case

A 58-year-old male with a past medical history of prostate cancer, hypertension and end stage renal disease on hemodialysis presented to the clinic for cardiac evaluation as a kidney transplant candidate. Patient was asymptomatic with a blood pressure of 112/63 mmHg and heart rate of 87 beats per minute. The physical examination was pertinent for grade I/VI mid-diastolic murmur at the cardiac apex and lower extremity 2+ pitting edema. The transthoracic echocardiogram revealed an ejection fraction of 60-65%, no regional wall abnormalities and a small circular mass (measured ~ 0.8 cm) that appeared to be attached to the chordae tendinae of the mitral valve. This mass was not apparent on previous studies. A transesophageal echocardiography was subsequently performed, which showed a 0.9 x 0.8 cm myxoma which appeared to be stemming from the chordae tendinae of the mitral valve (Figure 1 & Figure 2). He was subsequently referred to cardiothoracic surgery for excision and biopsy but was unable to undergo the procedure given his active cancer.

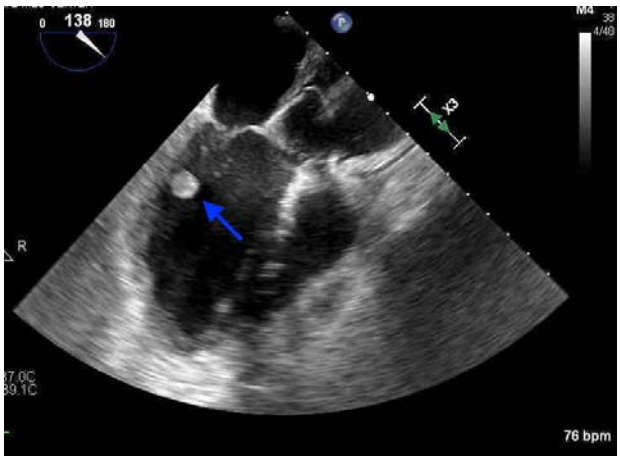

Figure 1. Trans-esophageal echocardiogram showing 0.9 x 0.8 cm mass

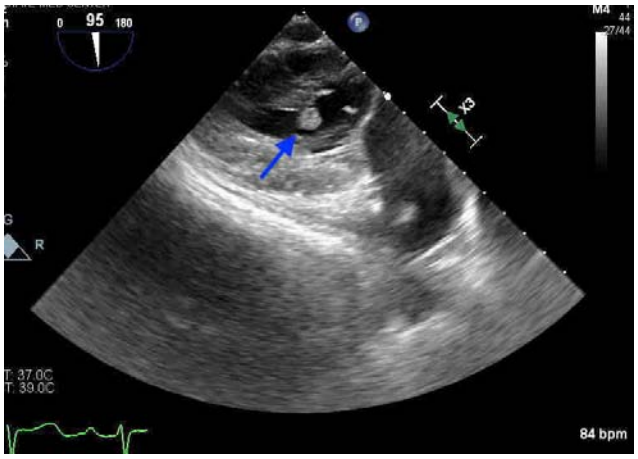

Figure 2. Attached to chordeae tendinea

3. Discussion

Cardiac tumors have an incidence of <0.33% [1] with primary cardiac tumors being exceptionally rare, with an incidence between 0.0017% and 0.19% [6]. Nearly 75% of them are benign and half of the benign tumors are myxomas. The rest are mostly lipomas, papillary fibroelastomas, and rhadomyomas [7]. Nearly 90% of myxomas are located in atria, most of them arise from fossa ovalis along the interatrial septum [7]. A very small percentage of myxomas are detected in the left or right ventricle (only 3 to 4 percent per each ventricle) [7]. Our patient was diagnosed with a left ventricular myxoma attached to the chordae tendinae of the mitral valve; only one other case has been published with a similar diagnosis [8].

The clinical findings of myxomas are determined by their size, location and mobility. The symptoms can present as a triad of embolic phenomena, intracardiac obstruction, or constitutional symptoms [7] with most patients being symptomatic.. In our case report, the patient was totally asymptomatic with no history of systemic embolism, cardiac obstruction or constitutional symptoms. Systemic embolism is the most common complication of a left ventricular (LV) myxoma, and is seen in up to 50% of cases [9]. In the majority of cases, the cerebral arteries, including the retinal arteries, are affected [9]. Left ventricular myxomas may lead to valvular obstruction mimicking the clinical presentation of mitral stenosis. It could also lead to obstruction of the left ventricular outflow tract [7,9]. Myxomas may also present with systemic symptoms such as night sweats, fever, weight loss and symptoms of connective tissue disorders [10].

The diagnosis of cardiac tumors can be performed by multiple modalities; echocardiogram is the most commonly used as it has a high sensitivity and specificity for the diagnosis, particularly of cardiac myxomas [5]. Transesophageal echocardiogram provides more detailed evaluation, such as the site of insertion and the morphological features, and is more accurate at detecting small tumors (1 to 3 mm in diameter) compared to transthoracic echocardiogram [5].

The treatment of choice for myxomas is surgical removal, which should be done promptly because of the risk of embolic complications and sudden cardiac death [7]. In our patient with active prostate cancer, this treatment option was deferred.

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