

Atrial Myxoma Mimicking Mitral Stenosis

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Abstract

Myxoma is the most common primary cardiac tumor and is usually located in the left atrium. Clinical manifestation relies in large part on the size, location, and architecture of the tumor. There are many reports in the literature of cardiac myxomas causing syncope, embolism, even myocardial infarction. We present a rare case of a patient who underwent urgent surgical resection of a large left atrial myxoma mimicking mitral stenosis. The postoperative course of the patient was uncomplicated. One year after surgery, the patient is asymptomatic and disease-free.

Keywords: Cardiac tumors; Myxoma; Mitral stenosis

Introduction

Myxoma is the most common primary cardiac tumor and is usually located in the left atrium. The tumor is located in the left atrium in 75% of the cases, in the right atrium in 23% and 2% of the cases is found in ventricles. In rare occasions, myxoma is found in more than one chamber. It is more common in women than men, and it can be manifested at any age [1].

Clinical manifestation relies in large part on the size, location, and architecture of the tumor. Myxomas can cause a pulmonary or systematic embolism, depending on the position of the tumor in the heart [2]. It can cause obstruction in the blood flow, mimicking mitral stenosis like in our case or mitral regurgitation as a result of complete blockage of the valve [3, 4]. Non-specific symptoms like fever, weight loss, and fatigue have also been reported [2].

The only treatment is surgical resection with high success

rates, and the recurrences are rare [2, 5].

Case Report

A 43-year-old patient with complaints of multiple syncopal episodes and severe exertion presented to our emergency department with acute pulmonary edema. Echocardiography revealed severe dilatation of the left atrium and an enormous mass attached to the interatrial septum reaching the atrial surface of the mitral valve (Figs. 1 and 2).

The mass occupied the entire left atrium protruding into the left ventricle during the opening of the mitral valve causing severe mitral stenosis with max PG 12 mm Hg (Fig. 3).

The patient underwent urgent surgical resection. A median sternotomy was performed, followed by right atriotomy. Inside the left atrium, an enormous mass was observed, overlapped by a thrombus (7 cm total diameter). The mass was resected without complications, and the septal defect was closed with a pericardial patch.

Histology showed myxoid matrix with stellate or elongated polygonal cells, scattered lymphocytes and red blood cells in keeping with myxoma (Fig. 4).

Discussion

Myxomas are easily misdiagnosed and should be considered

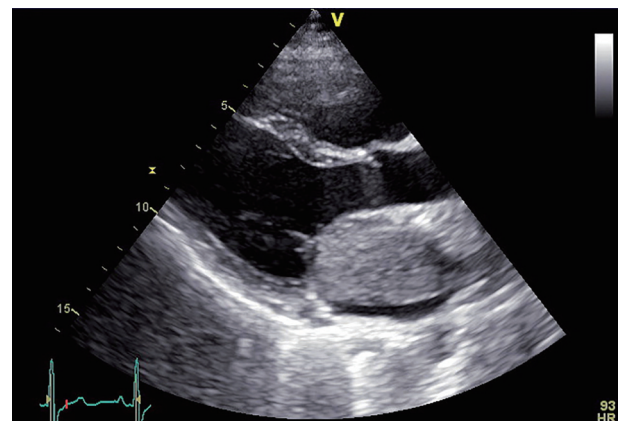


Figure 1. Long parasternal axis view of transthoracic echocardiography showing a left atrial myxoma reaching the atrial surface of the mitral valve.

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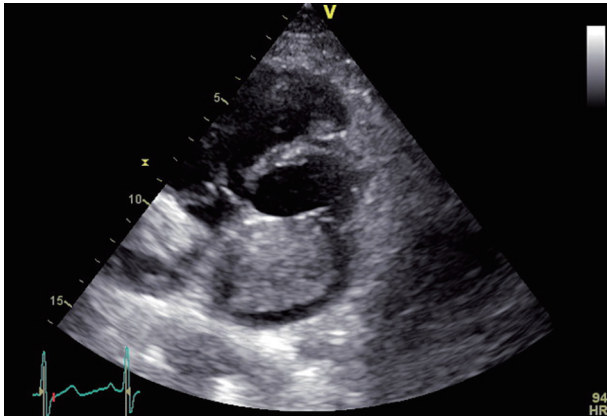


Figure 2. Short parasternal axis view of transthoracic echocardiography demonstrating a left atrial myxoma covering the entire left atrium.

in the differential diagnosis in patients with suspected mitral valve disease [1, 3]. Echocardiography should be performed as early as possible to establish a prompt diagnosis and management [6].

Due to a variety of non-specific findings at first presentation, myxoma is initially suspected in only 5.7% of patients. Clinical presentation consists of cardiac (67%), embolic (29%) and systemic (34%) symptoms, even sudden cardiac death. Symptoms of heart failure, as in the current case, are typically caused by partial obstruction of the mitral valve orifice by the myxoma [2].

Sudden cardiac death in patients with a primary cardiac tumor is rare and is estimated around 0.01-0.005% of all sudden deaths. Association between sudden cardiac death and cardiac myxoma has been reported in as early as 1953 by Madonia et al. A review of the literature on this subject between 1950 and 2017 revealed 17 cases of sudden death attributed to cardiac myxoma in adults [4].

Sudden death in myxoma is attributed to either severe acute disturbance in cardiac hemodynamics from cardiac obstruction to coronary embolization from the tumor [7]. The latter is probably responsible for sudden death in patients

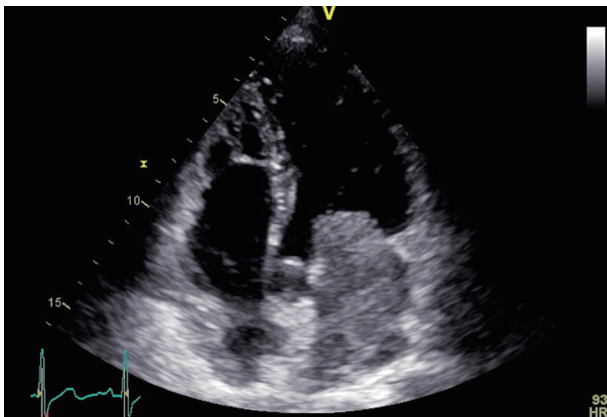


Figure 3. Apical four-chamber view of transthoracic echocardiography showing a left atrial myxoma attached to the interatrial septum and dilated ventricles.

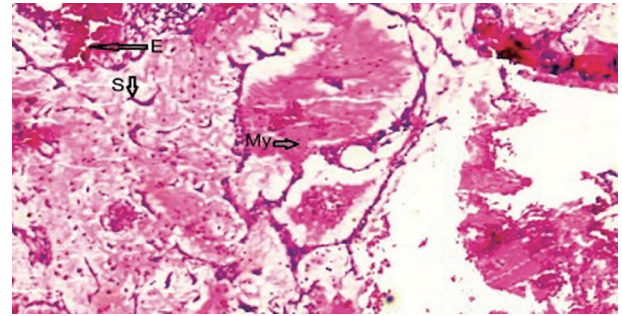


Figure 4. Hematoxylin and eosin staining method (magnification ratio, $\times 20$) showing myxoid matrix with stellate or elongated polygonal cell (My), scattered lymphocytes (S) and red blood cells (E).

with very small tumors. All of the above suggest that early surgery is essential and once it has been identified that a patient has a myxoma, that is significant enough to cause complete intracardiac obstruction, it must be performed urgently [5].

Conclusions

Surgical removal is the method of choice for the treatment of cardiac tumors such as myxoma. Excision helps to reduce complications, as myxomas increase rapidly in size and cause obstructive and embolic phenomena.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images.

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Conflicts of Interest

All authors have contributed and approved the final version of this manuscript. No author has any conflict of interest to disclose.

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