

Case Report

Left Atrial Mass in a Patient With Rheumatic Mitral Stenosis: A Case Report

Mehrdad Jafari Fesharaki¹, MD; Mohammad Parsa Mahjoob², MD;
Naser Kachoueian^{3*}, MD; Abdolali Ebrahimi⁴, MD

ABSTRACT

Rheumatic mitral stenosis is common in developing countries. The left atrium, due to its large size, is prone to thrombus formation, and the presence of a large mass is more suggestive of a clot. Myxomas are some of the most common benign heart tumors; however, they have been reported rarely in rheumatic mitral stenosis. Here, we describe a patient with mitral stenosis who presented with a large left atrial mass, which was ultimately diagnosed as a tumor. (*Iranian Heart Journal 2021; 22(1): 106-108*)

KEYWORDS: Cardiac tumor, Left atrial mass, Left atrial myxoma, Mitral stenosis

¹ Department of Cardiology, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, IR Iran.

² Cardiovascular Reserch Center, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, IR Iran.

³ Cardiosurgery Department, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, IR Iran.

⁴ Pathology Department, Imam Hosein Hospital, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, IR Iran.

*Corresponding Author: Naser Kachoueian, MD; Cardiosurgery Department, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, IR Iran.

Email: Kachoueian.n@gmail.com

Tel: +989123077022

Received: February 8, 2020

Accepted: April 11, 2020

Despite the decline in the incidence of rheumatic heart disease, its health burden is still high.¹ Blood stasis in the left atrium (LA), especially in mitral stenosis (MS), increases the risk of thrombus formation and embolic events.² A large mass in the presence of MS is more suggestive of a clot. Herein, we introduce a case with rheumatic MS and a large LA mass, the final diagnosis of which was a tumor.

CASE PRESENTATION

A 40-year-old woman was referred to our hospital with shortness of breath. Her important history was a significant weight loss over the preceding few months. Transthoracic

echocardiography revealed a thickened mitral valve with a hockey stick appearance, significant stenosis, and mild-to-moderate regurgitation. Importantly, echocardiography also showed a large and mobile mass (3 × 2.5 cm) with a multi-lobulated view in LA adjacent to the mitral annulus with protrusion through the mitral valve orifice.

The presence of rheumatic MS and atrial fibrillation rhythm was indicative of a thrombus, but transesophageal echocardiography revealed that the high transvalvular gradient (MG = 12 mm Hg) and significant stenosis (effective mitral orifice area about 0.6 cm² with 3D planimetry) was mostly due to the volume of the mass. The villiform appearance,

location, presence of a very small stalk, and mass echogenicity were suggestive of a myxoma (Fig. 1).

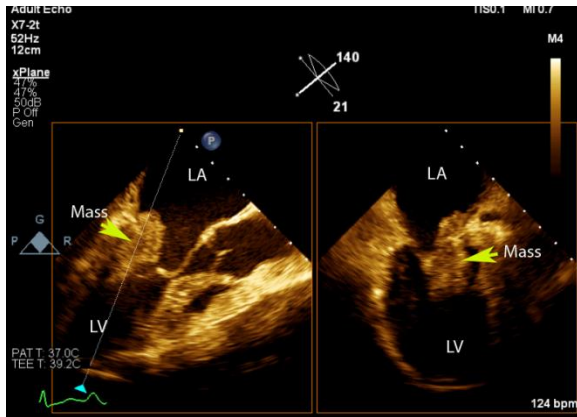


Figure 1: Villiform mass is present with a very small stalk, suggestive of a myxoma.

The patient underwent surgery. A large gelatinous mass was seen in LA; it was attached to the base of the interatrial septum with a small stalk (Fig. 2). The mitral valve had rheumatic involvement, which was not very severe. The mass was completely removed, and the mitral valve was replaced with a prosthetic valve.

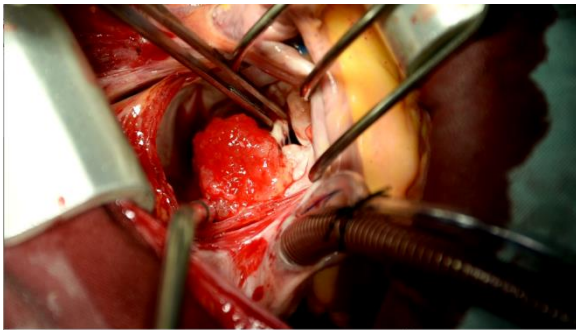


Figure 2: A large gelatinous mass is present in the left atrium attached to the base of the interatrial septum with a small stalk.

A histopathological examination of the tumor revealed myxoma cells with eosinophilic cytoplasm, indistinct cell borders, and oval nuclei in a myxoid background (Fig. 3).

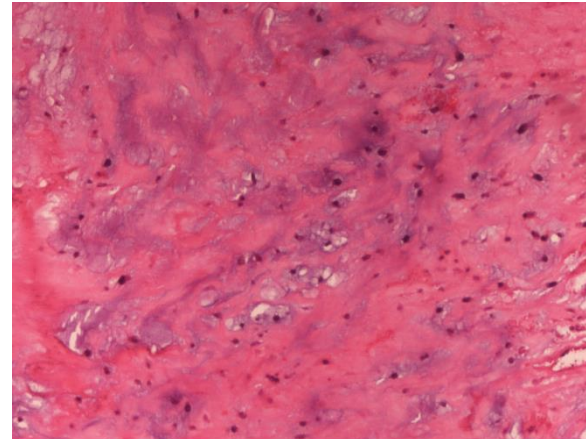


Figure 3: Myxoma cells with eosinophilic cytoplasm, indistinct cell borders, and oval nuclei in a myxoid background are illustrated.

DISCUSSION

Most cardiac tumors are benign, and about half of them are myxomas.³ When LA myxomas are associated with valvular problems, especially rheumatic involvement, the diagnosis becomes complicated.⁴ The association between rheumatic MS and LA myxomas is rare, and there are limited reported cases.⁵ Because of the high prevalence of LA clots in MS,⁶ our dilemma was whether it was a clot in the base of the interatrial septum or a tumor. In our case, because of the movement of the mass through the mitral orifice, despite mild valvular MS, the effective area was severely reduced, which led us to think that a large clot was associated with severe MS. Nonetheless, our 3D zoom transesophageal study showed that the severity of the MS was not high and it was the mass that made it look severe. Additionally, the gelatinous and lobulated appearance of the mass increased the likelihood of the presence of a tumor, which was subsequently confirmed by surgery and pathology.

REFERENCES

1. Seckeler, M.D. and T.R. Hoke, *The worldwide epidemiology of acute rheumatic*

- fever and rheumatic heart disease.* Clin Epidemiol, 2011. **3**: p. 67-84.
2. Belen, E., E. Ozal, and H. Pusuroglu, *Relationship between the presence of left atrial thrombus in patients with mitral stenosis and platelet-to-lymphocyte ratio.* Anatol J Cardiol, 2016. **16**(9): p. 673-7.
 3. Reynen, K., *Cardiac myxomas.* N Engl J Med, 1995. **333**(24): p. 1610-7.
 4. Wang, H., et al., *Cardiac Myxoma: A Rare Case Series of 3 Patients and a Literature Review.* J Ultrasound Med, 2017. **36**(11): p. 2361-2366.
 5. Khania, M. and M. Hekmat, *A patient with rheumatic mitral stenosis and an atrial myxoma.* Eur J Echocardiogr, 2003. **4**(3): p. 229-31.
 6. Pytlewski, G., et al., *Resolution of left atrial thrombus with warfarin by transesophageal echocardiography before percutaneous commissurotomy in mitral stenosis.* Am Heart J, 1994. **128**(4): p. 843-5.