CASE REPORT

Biatrial Myxoma
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ABSTRACT
A female, 32 years of age, presented with complaint of easy fatigability and exertional dyspnoea for the last one year. She had no previous history of cardiac disease. On clinical examination, there was a diastolic murmur at apex. Transthoracic echocardiography and subsequently a transesophageal echocardiogram was performed, which showed biatrial pedunculated masses, suggestive of cardiac myxoma. The left atrial mass was 28 x 15 mm and right atrial mass was 35 x 25 mm in dimension and both appeared attached with interatrial septum. On surgical excision and histopathological examination, findings were consistent with cardiac myxoma.

Key words: Myxoma. Atria. Echocardiography.

INTRODUCTION
Primary cardiac tumours have an incidence of 0.002–0.3% in various autopsy series.1 The most common primary tumour of the heart is the cardiac myxoma, which usually occurs in the left atrium.2 Most atrial myxomas originate from the limbus fossa ovalis but approximately 10% arise from other regions, including the posterior and anterior atrial walls or lower part of interatrial septum.3 Multiple myxomas are seen in < 5% cases, of which half (2.5%) are biatrial in origin. Biatrial myxomas often arise from mirror-image regions on both sides of the atrial septum.4

This case report describes the uncommon occurrence of myxoma in both atria.

CASE REPORT
A 32-year-old female presented with history of easy fatigability and exertional shortness of breath for the last one year. Her symptoms got worsened over last few months. She denied any past history of cardiac illness. On physical examination, she was hemodynamically stable. Lungs were clear on auscultation. Cardiac sounds were normal with a 2/6 diastolic murmur audible at apex.

The chest radiograph was normal. Laboratory investigations showed hemoglobin of 13.5 g/dl, serum creatinine of 0.6 mg/dl, normal coagulation profile, liver functions and arterial blood gases. The ultrasound scan of abdomen was also normal.

She underwent Transthoracic Echocardiogram (TTE), which showed pedunculated mobile masses in both right and left atrium with echocardiographic appearance, suggestive of cardiac myxoma. A Transesophageal Echocardiogram (TEE) was then performed to obtain more details. TEE revealed mobile biatrial masses. The left atrial mass was 28 x 15 mm and the right atrial mass was 35 x 25 mm in dimension (Figures 1a and 1b). Both masses seemed to be attached with the interatrial septum. The right atrial mass was prolapsing through the tricuspid valve during diastole. No valvular pathology was identified and pulmonary pressures were in normal range with preserved left ventricular systolic function.

Immediate operation was indicated and the patient was taken for surgery. After institution of cardiopulmonary bypass, utilizing a direct cannulation into the superior vena cava and a femoral approach to the inferior vena cava, the aorta was cross-clamped with cardioplegic arrest. The right atrium was opened carefully. A large lobulated tumour almost filling the entire right atrium was encountered. It had a broad-based attachment to the dorsal free wall of the right atrium and the interatrial septum on the inferolateral aspect. Left atrial myxoma was attached to the posterior wall of the left atrium near the opening of pulmonary veins. Both myxomas were excised along with the intervening atrial septum and part of posterior wall of left atrium (Figure 2). Interatrial septum was closed with pericardial patch and posterior left atrial wall was reconstructed. She tolerated the

Figure 1a: Transesophageal echocardiogram, short axis view at mid esophageal aortic valve level showing: lobulated masses in both atria.

Figure 1b: Transesophageal echocardiogram, 0 degree four chamber view at mid esophageal level showing: masses in both atria.
procedure well and was discharged on 6th day of surgery.

Histopathology of the mass showed round, stellate to spindle cells and abundant eosinophilic cytoplasm. Cells were embedded in abundant myxoid stroma. Scattered giant cells and plasma cells were noted with foci of hemorrhages, no mitosis, necrosis or atypia seen. Immunohistochemistry revealed positive CD34 and Vimetin. Features are consistent with benign myxoma. Patient is doing well on follow-up.

**DISCUSSION**

Myxoma remains the commonest primary tumour of the heart, accounting for half of the primary cardiac neoplasms. About two-third of cardiac myxomas are located in the left atrium and remaining one-third arise from the right atrium.6 Although some cases are discovered incidentally by echocardiographic examination, in most of the patients it presents by various symptoms, including fever of unknown origin, caused by the release of inflammatory cytokines, such as interleukin-6 (IL-6), obstruction of intracardiac blood flow or embolization.5 Most cardiac myxomas arise as an isolated left atrial mass from the fossa ovalis in middle-aged women.4 Approximately, 7% of cardiac myxomas arise as component of a heritable disorder with spotty pigmentation of the skin and endocrinopathy, which is referred as Carney complex.6

Biatrial tumours are extremely rare and are reported in 3 to 5% of cases of patients with cardiac myxomas.7 Myxomas are usually benign neoplasm but there are many reports suggesting its malignant potential including recurrence of the tumour, locally invasive myxoma, extension from the heart, and distant metastasis or peripheral tumour mass.8 Cardiac myxomas are generally curable by surgical resection of the primary tumour, but recurrence can occur at the site of the original tumour or at sites outside the heart. Recurrence of cardiac myxoma has been observed in about 3% cases.9

Biatrial myxomas usually arise from mirror-image regions on both sides of the septum, they often represent growth in both directions from a single septal.7 Transthoracic echocardiogram can be used to determine the size, mobility, shape and location of the tumour. However, it is less effective at identifying the site of attachment of the tumour. Transesophageal echocardiogram is considered more effective in assessing tumour dimension and site of attachment.1 As far as surgical excision is concerned, most authors believe that right atrial approach is preferred. Furthermore, it is pointed out that a right atrial transseptal approach allows for inspection without difficulty of all four chambers of the heart during the procedure in an effort to ensure that no residual lesion is missed.10

The present case is rare and especially interesting because both stalks originated from opposite sides at the same point of the atrial septum. It is possible that the myxomas grew evenly, one in the right atrium and the other in the left atrium, therefore, one can say that they were twins myxoma.

**REFERENCES**