Case Report

Left Atrial Myxoma: An Enigma in Itself – Two Case Reports

Fiza Chopra[1], Neha Singh[1], Rupinder Kaur[1], Sanjukta[1,*]

[1]Department of Pathology, Maharishi Markandeshwar Institute of Medical Sciences and Research, Mullana, Ambala, Haryana, India

***Correspondence:** Sanjukta9015@gmail.com

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Abstract

Background: Cardiac myxomas are rare primary cardiac tumours with variable clinical presentation.Case Presentation: We report two cases of left atrial myxoma, a 40-year-old female with dyspnoea and syncopal episodes, and a 16-year-old male with atypical chest pain and a prior neurological event. Routine laboratory parameters and ECG were unremarkable in both cases, while transthoracic echocardiography and CECT chest identified left atrial masses. Both patients underwent surgical excision. Histopathology revealed classic myxoma morphology with nests and cords of lepidic cells in a myxoid matrix. The older patient developed postoperative sepsis and expired, whereas the adolescent recovered uneventfully.Conclusion: These two case reports highlight the broad age spectrum and diverse clinical manifestations of left atrial myxoma, reinforcing the importance of timely imaging and histopathological confirmation.

Keywords: Left atrial myxoma; case report; echocardiography; cardiac tumour; histopathology

Introduction

Cardiac myxomas (CM) are relatively rare, constituting approximately half of all primary cardiac tumours, with an estimated occurrence ranging from eight to 150 cases per million people.[1] They have a spectrum of clinical presentations, from being asymptomatic to causing constitutional symptoms, and may present with central or peripheral embolism or intracardiac obstruction. Complete myxoma embolisation to the peripheral vessels is a rare but potentially fatal consequence of CM.[2]

Diagnosing CM can be challenging, as tumour location significantly influences the clinical manifestations. Evaluation is commonly performed using transthoracic echocardiography (TTE); however, an incomplete assessment of the heart may occur due to limitations such as poor acoustic windows, operator expertise, and patient body habitus. Complementary imaging modalities play an important role in diagnosis, prognostication, and treatment planning.[3] We hereby present two case reports of left atrial myxoma in different age groups.

Case-1

A 40-year-old female presented to the Medicine OPD with progressive dyspnoea for two months, exertional breathlessness for one month, and two episodes of syncope over the past eight months. On examination, her blood pressure was 130/82 mmHg, pulse rate 82/min, and SpO_2 85%. Abnormal heart sounds were noted on auscultation. Routine blood investigations were within normal limits except for an elevated erythrocyte sedimentation rate (52 mm/hr) and a positive C-reactive protein. Electrocardiography findings were normal.

Transthoracic echocardiography (TTE) demonstrated a left atrial (LA) mass measuring 3.6 × 3.0 cm, attached to the anterior mitral leaflet. (Fig. 1). Contrast-enhanced CT (CECT) of the chest, performed with arterial and venous phases, revealed cardiomegaly with an irregular, heterogeneous, hypodense mass arising from the anterior LA.

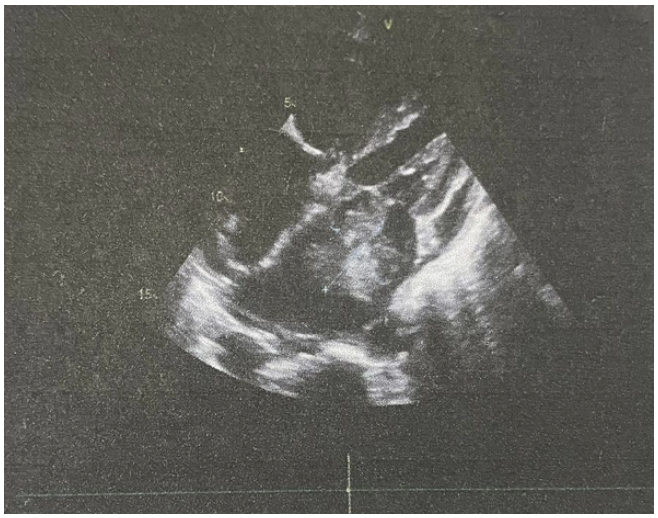

Figure 1: TTE shows LA mass of 3.6*3.0 cm attached to the anterior mitral leaflet.

Following evaluation, the patient underwent right atriotomy and septostomy with excision of the LA mass, along with tricuspid valve repair using a St. Jude's ring annuloplasty. The excised specimen was sent for histopathological analysis. Gross examination revealed a polypoid, pedunculated, soft to gelatinous mass measuring 5 × 6 cm (Fig. 2). The cut surface showed a variegated appearance with mucoid and haemorrhagic areas. Microscopic examination showed nests, papillary

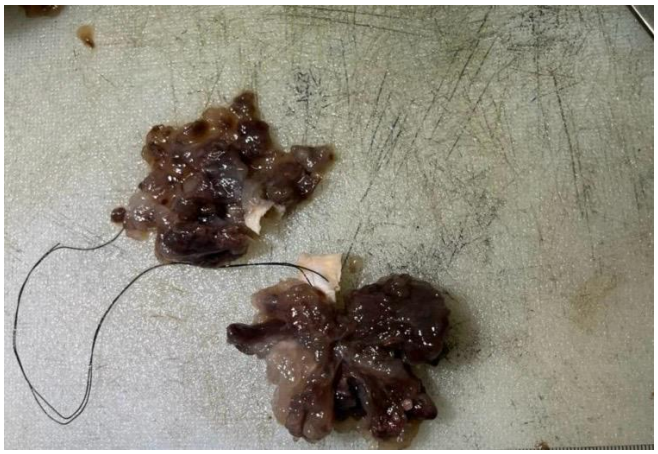

Figure 2: Polypoid pedunculated mass with soft to gelatinous consistency.

fronds, and cords of myxoma (lepidic) cells embedded in a myxoid stroma. The tumour cells were round to oval, with occasional stellate morphology, bland nuclei, and light eosinophilic cytoplasm. Numerous haemosiderin-laden macrophages and gamma-gandy bodies were noted (Fig. 3 and 4). A diagnosis of left atrial myxoma was established.

Postoperatively, the patient developed sepsis on the second postoperative day, resulting in low cardiac output, and despite aggressive management, she succumbed to complications (follow up period of 6 months).

Case 2

A 16-year-old adolescent male presented to the Medical OPD with atypical chest pain for one month. His cardiac biomarkers were within normal limits. He reported a history of hemiplegia with slurred speech one year earlier, from which he had

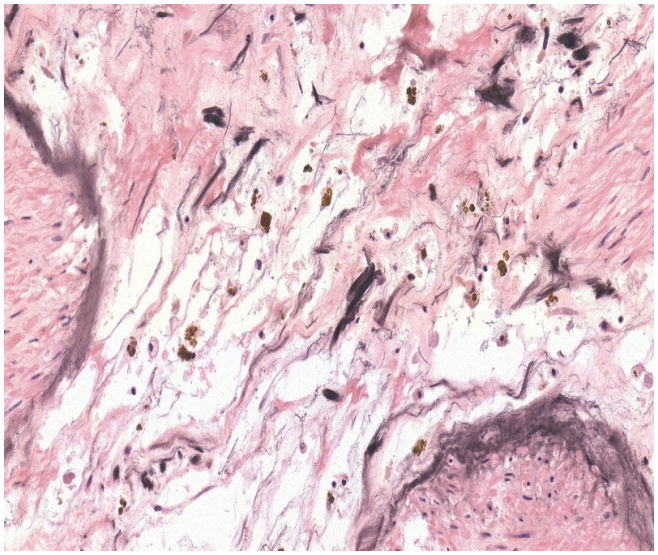

Figure 3: Presence of haemosiderin laden macrophages in the stroma along with gamna-gandy bodies (H&E, x400).

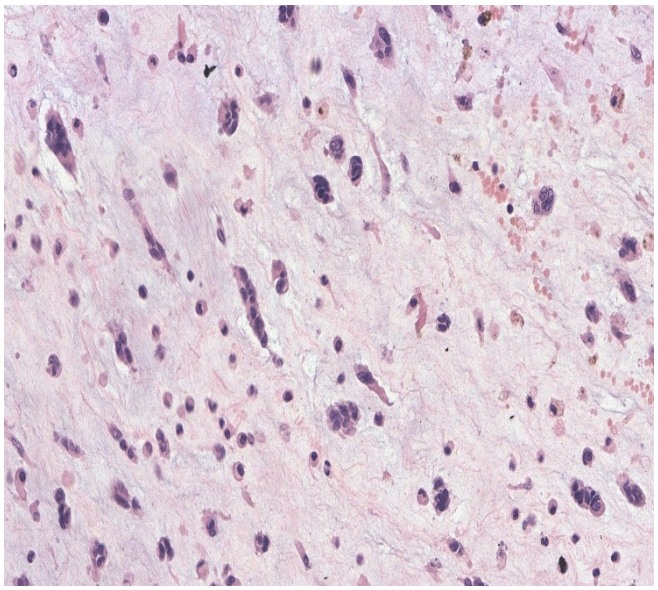

Figure 4: Stellate, spindle, and oval tumour cells in abundant myxoid matrix (H&E, x400).

gradually recovered. There was no history of headache, vomiting, seizures, or trauma during the previous or current episodes. No family history of cardiac tumours was identified.

On examination, his vital parameters were stable, and cardiovascular assessment revealed normal S1 and S2 with no added sounds. Routine laboratory investigations, including complete blood counts, kidney and liver function tests, coagulation profile, and viral markers, were all within normal limits.

Two-dimensional transthoracic echocardiography (2D-TTE) performed revealed a homogeneous echogenic mass within the LA, protruding towards the LV cavity, without evidence of calcification.

The patient subsequently underwent surgical excision of the mass, which was submitted for histopathological examination. The specimen consisted of multiple polypoid, soft to gelatinous, friable fragments collectively measuring 12 $\times$ 9 cm (Fig. 5). Histopathological evaluation revealed oval to plump and stellate tumour cells arranged in cords and small nests, embedded within a myxoid stroma, along with haemosiderin-laden macrophages (Fig. 6). These features were consistent with a diagnosis of left atrial myxoma.

Postoperatively, the patient remained haemodynamically stable, recovered without complications, and was asymptomatic at the time of last follow-up.

Discussion

Cardiac myxoma is the second most common primary cardiac tumour in adults, accounting for approximately half of all primary cardiac neoplasms.[3] Although reported across all age groups, it occurs most frequently between the fourth and

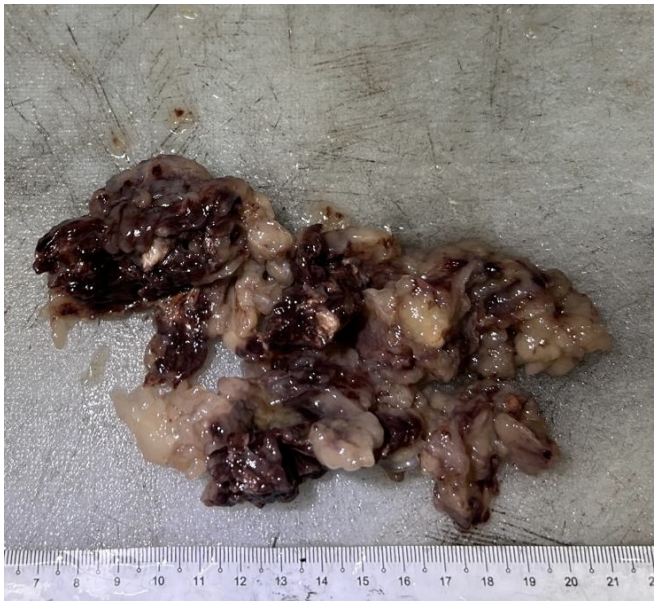

Figure 5: Multiple polypoid soft to gelatinous friable pieces.

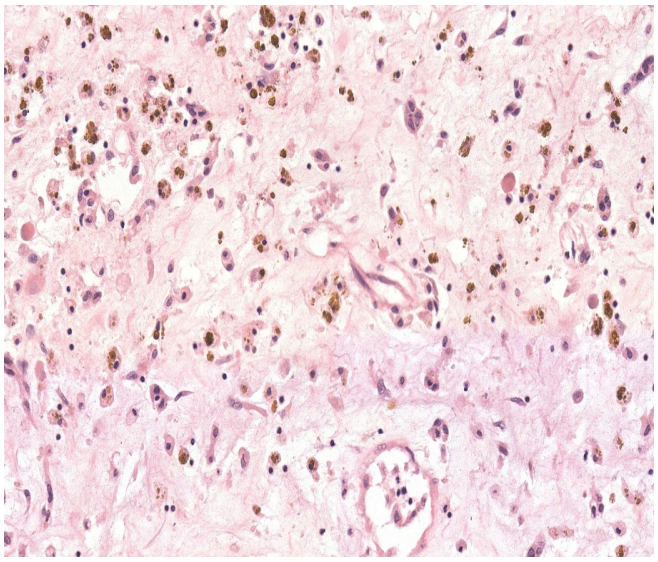

Figure 6: Oval, plump to stellate shaped tumor cells embedded in myxoid stroma. Presence of hemosiderin laden macrophages (H&E, x400).

seventh decades of life (30–70 years). Myxomas have an overall female predominance, although this trend decreases in individuals older than 65 years.[3] In the present two-case reports, one patient was a 16-year-old male, representing an uncommon age group for this tumour.

Cardiac myxomas most often arise in the left atrium (LA) in approximately 75% of cases, typically originating from the interatrial septum. About 18% occur in the right atrium (RA), and the remaining 6% in the ventricles.[4] Consistent with this distribution, both patients in our case reports had left atrial involvement.

CMs may occur as familial or sporadic lesions. Familial myxomas, comprising roughly 10% of cases, are strongly associated with Carney complex, an autosomal dominant syndrome characterised by spotty skin pigmentation, endocrinopathies, melanotic schwannomas, and testicular tumours.[4, 5] Neither of the above patients had a family history or clinical signs suggestive of Carney complex, supporting a sporadic origin.

Sporadic myxomas show a broader age range and may rarely present during adolescence, as reported by Thakur et al. [6] who described an LA myxoma in a 15-year-old patient like one of the case report mentioned. However, the typical age of presentation remains fourth to sixth decades, although occurrences in the elderly have also been documented.[7, 8]

Diagnosing CM can be challenging due to its variable, non-specific, and often misleading clinical manifestations. Symptoms arise from three principal mechanisms, i.e. mass effect, causing intracardiac obstruction; embolisation, particularly systemic emboli from friable tumours; and constitutional manifestations, such as fever or weight loss.[4, 5]

Because CMs can mimic a wide range of cardiovascular and systemic diseases, they are often misdiagnosed or detected

incidentally. [2] Thakur et al. [6] also reported neurological manifestations preceding diagnosis in his case report. In case report, the adolescent male had a remote neurological event, although he did not present with such symptoms during the current admission.

Left atrial myxomas may also simulate valvular pathologies, including mitral regurgitation (MR), tricuspid regurgitation (TR), or tricuspid stenosis (TS), particularly because approximately 36% of cases may lack an audible murmur. Both the cases presented with non-specific symptoms, including dyspnoea, exertional intolerance, and atypical chest pain.

Common complications include systemic embolisation, myocardial infarction, haemolytic anaemia, and thrombocytopenia. Although transthoracic echocardiography (TTE) remains the first line and most widely used diagnostic modality, CECT and magnetic resonance imaging (MRI) may provide additional structural and tissue characterisation. On CECT, myxomas typically demonstrate heterogeneous enhancement with attenuation lower than that of surrounding myocardium.[9] In both the case reports, TTE successfully identified the LA masses, which were subsequently confirmed as myxomas on histopathology.

Grossly, myxomas are classically ovoid, lobulated, and gelatinous masses. Microscopically, they demonstrate stellate and spindle-shaped myxoma cells in a myxoid background, often accompanied by mucinous areas, cystic change, haemorrhage, haemosiderin deposition, fibrosis, and calcification, all features noted in our specimens.[2, 3]

Conclusion

Cardiac myxomas are rare benign intracardiac tumours that most frequently arise in the left atrium and may present across a wide age range, as demonstrated by our adolescent and adult cases. Their non-specific symptoms and ability to mimic various cardiovascular conditions make timely diagnosis challenging. Transthoracic echocardiography remains the key initial modality, supported by complementary radiological and pathological evaluation for confirmation. Awareness of their variable presentations and careful clinical assessment are essential for early detection and management.

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