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Case Reports

Surgical Resection of Left Atraial Myxoma in A Male Child - A Case Report

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Introduction

Primary heart tumor is uncommon in the pediatric population, with a reported incidence of 0.2%.[1] Only 14.5% of all cardiac tumors occur in patients aged below16 years.[2] Myxomas are primary benign tumors that occur in the chambers of the heart. Although myxomas may develop in any chamber of the heart, approximately 75% of myxomas develop in the left atrium, 23% in the right atrium, and the remaining 2% in the ventricles.[3]

Myxomas are mostly managed with surgical resection. Once the diagnosis of left atrial myxoma has been made, operation should be done as soon as possible. An 8% mortality rate has been reported in patients waiting for operation.[4]

The results of surgical resection are generally very good, with most series reporting an operative mortality rate under 5 percent.[5]

Case report

A 13 years old boy presented with complaints of feverish, weakness and dyspnea on exertion over the preceding 6 months aggravating progressively. Physical examination revealed moderate systoloic murmur with diastolic rumbling.

An electrocardiogram showed sinus rhythm with normal axis and no conduction abnormality. An echocardiography confirmed the presence of a giant left atrial mass with mild to moderate mitral insufficiency. A pedunculated tumor advanced through and obstructed the mitral valve during diastole and expelled into the left atrium (LA) during systole. The mass was connected with a broad stalk with interatrial septum at its lower end.

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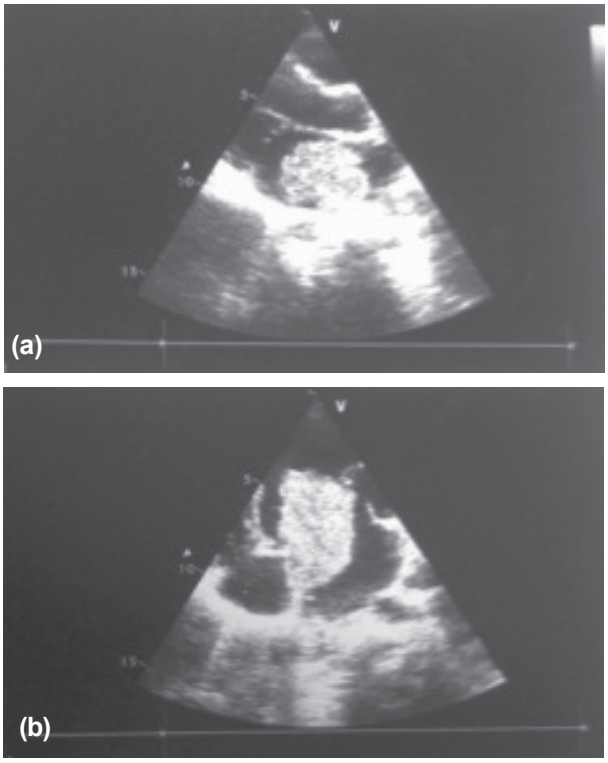

Fig.-1: *Echocardiographic picture of the left atrial myxoma was expelled retrogradely during systole (a) and advanced through and obstructed the mitral valve during diastole (b).*

Chest was opened through median sternotomy, cardiopulmonary bypass was established by selective cannulations of superior and inferior vena cava. Heart was arrested with antegrade cold blood cardioplegia.

Myxoma was approached through interatrial septum by right atriotomy. The myxoma was found attached to the left atrial wall close to the inferior aspect of interatrial septum. The tumor was expelled by piecemeal, stalk was excised from left atrial wall, including endocardium with normal margin. Mitral valve was checked by water leak test and found trivial leakage. The mitral valve including the 2 leaflets, chordate, and papillary muscles, appeared to be intact. Left atrium and left ventricle was thoroughly irrigated

by normal saline and strong suction to remove any detached remnant or debris. Inter-atrial septum was closed directly. RA was closed after removing cross clamp. Heart back to normal sinus rhythm and was weaned from cardiopulmonary bypass smoothly.

Histological examination of the removed mass showed polygonal,stellate cells with an abundant acid mucopolysaccharide-rich matrix consistent with benign myxoma (Fig.-2). There was no post operative complication and the child was discharged according to routine schedule. At the time of 3 month follow-up, echocardiography showed trival mitral insufficiency, however, the patient has been completely asymptomatic without arrhythmia or any evidence of tumor recurrence.

Fig.-2: *Photomicrograph reveals myxoma cells forming cords within myxoid background (H&E x40).*

Discussion

Myxomas are the most common type of primary cardiac tumor, accounting for 50% of all primary cardiac tumors of all age groups.[6] However in pediatric groups they are less common than rabdomyomas and fibromas.[7] Most cardiac myxomas occur in the third to six decades although they have been reported in patients aged 3 months to 85 years.[8,9] One observational study showed that there was no myxoma in the age group 0–9 years, whereas all patients in the age group 70–79 years were exclusively myxoma.[10] Myxomas very rarely affect children and infants.[6]

Myxomas occur in all regions of the heart and may result in compression of cardiac structures, valvular insufficiency, outflow tract obstruction, coronary emboli, and occasionally sudden death. Although mitral insufficiency is common in cases with left atrial myxoma, it can be managed without surgical intervention in many instances. According to a previous report, mitral insufficiency due to annular dilation is reversible on long term follow-up.[11] In our patient, mitral insufficiency was not intervened and post operative follow-up echocardiography showed grade-I mitral regurgitation. Further follow-up of valvular function is mandatory.

Postoperative recovery is generally rapid. However, atrial arrhythmias or atrioventricular conduction abnormalities were present postoperatively in 26 percent of patients in one series.[12] Our child recovered rapidly without any rhythm problem. Recurrence is very low (4.7% in 526 cases reported in the literature), except in the case of young patients and recurrent, familial, multiple or complex myxomas. The multi-growth potentiality of the tumor seems more important than an inadequate surgical resection.[13] In our patient, careful inspection during surgery confirmed presence of no other tumor. After 6 days of surgery, echocardiographic examination revealed no remnant myxoma and after 6 weeks, no new growth in LA. As the reported time interval between the initial excision and re-intervention ranges from 6 months to 12 yrars[14], periodic echocardiographic examinations are essential to monitor the recurrence of the myxoma after resection.

Conclusion

Though myxoma is rare in children yet it should be considered when there is any growth in left atrium. Surgical resection should be done and periodic follow-up is essential,

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