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An Audit of Management of Atrial Myxoma At A Tertiary Referal Centre

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Abstract : *Myxomas are common intracardaic tumours. These lesions are friable and easy to embolise. We present data of surgical excision of this tumour in 8 patients,2012 to 2016. Patients data regarding age, sex, clinical presentation,size of myxoma, bypass time ,cross clamp time, postoperative course were noted. All patients were operated for removal of myxoma. Care was taken to ensure that minimal handling of the heart is carried out during the conduct of cardio-pulmonary bypass (CPB) Of the 8 patients operated. 5 of the patients presented with LV inflow obstruction. There was one post-operative mortality. The mean bypass time was 100.1 min range (48 to 195minutes) and cross clamp time 67.14 min range (32 to 108 minutes). The mean size of myxoma was 50 by 33.1 mm. Atrial myxomas have excellent long term survival. Surgery needs to be done on an emergency basis for the fear of tumor fragmentation and subsequent embolization.*

Keywords: *Atrial myxoma ,embolisation ,right atrial approach*

I. Introduction

Cardiac tumours include benign and malignant neoplasm arising from the cardiac chambers. Of the benign tumours, Myxoma's is most common having an incidence of 0.5 per million populations per year[1] (1). The intra-cardiac location along with friable and gelatinous surface of these, tumour makes embolization a constant threat

II. material and method

We report 8 consecutive patients who underwent myxoma excision from April 2010 to March 2016. All of these patients were referred from the Cardiology department with 2 dimensional echocardiography (2 D Echo) report, which shows presence of an intra-cardiac mass.

Surgical Techniques:

All patients were expediently operated for removal of myxoma through median sternotomy with central aortic and bi-caval cannulation under moderate systemic hypo-thermia. Utmost care was taken to ensure that minimal handling of the heart is carried out during the conduct of cardio-pulmonary bypass (CPB). The cavae were snugged and right atrium opened parallel to atrio-ventricular groove. The inter atrium septostomy (IAS) was done and left ventricle vented. A portion of IAS was removed to aid removal of the myxoma. Thorough saline wash was given to ensure no tumor fragments is left out. Direct visualization of all the chambers is carried out to rule out any multi-centric foci. The defect in the IAS is closed with autologous pericardial patch. All myxomas were approached through right atrium (RA) since all four chambers could be visualised keeping in mind that myxomas can be multicentric.

III. Result

Of the 8 patients operated (5 females, 3 male), the median age was 48 years (Range 8-60 years). 5 of the patients presented with LV inflow obstruction stimulating mitral stenosis like picture, 2 patients presented with hemiplegia and on evaluation found to have myxoma. 1 patient was evaluated to have myxoma on routine 2 D echo evaluation. There was 1 post-operative mortality. Post operative 2 D Echo revealed no residual myxoma, with intact IAS patch and no flow across the patch. 6 of patients are following up till date. 1 patient subsequently died 5 years after surgery with stroke at the peripheral referral centre. The mean bypass time was 100.1 min range (48 to 195minutes) and cross clamp time 67.14 min range (32 to 108 minutes). The mean size of myxoma was 50 by 33.1 mm.

IV. Discussion

Myxomas can present with wide variety of signs and symptoms making it a diagnostic dilemma for the physician. Common symptoms include dyspnea, orthopnea, paroxysmal nocturnal dyspnea (PND), cough and in late cases pulmonary edema, hemoptysis which is common to many of the cardiac diseases. With the advent in 2 D Echo, fortunately most of these patients are detected during the initial evaluation. Often

embolization to a peripheral vascular system leads to evaluation for a cardiac tumour.

Worldwide, myxomas represent the more than two thirds of all the cardiac tumors, with left atrium being the most common site[2,3]. Most of them occur in females in fourth to six decades of their lives[2].Clinical manifestations depend upon the location and size of the tumor. More important than the size, it is the location of the tumor, which can cause hemodynamic consequences. The mobility of the tumor, the length of the stalk, extent of attachment all plays an important factor in the pathophysiology of myxoma.

The symptoms caused by myxoma's fall within one of three groups, which comprise the classic triad. They are obstructive cardiac signs, embolic signs, and constitutional/systemic signs. In obstructive, patient presents with dyspnea, orthopnea, PND, palpitation, cough and in late, untreated, long standing cases as hemoptysis, pulmonary edema and pulmonary artery hypertension. The dyspnea is classically described as positional as the myxoma obstructs the inflow to the mitral valve when the patient is in upright position. The embolic variant includes hemiplegia, stroke, and transient ischemic attack, whereas fever, arthralgia, and vasculitis constitute to form the systemic symptoms. This probably occurs due to minute tumor fragmentation, which occurs during the natural history of myxoma.

In our patient series, 6 patients presented with mitral stenosis like picture, 2 patients having central nervous system manifestation in the form of hemiplegia and 1 patient was found to have myxoma on routine 2 D echo evaluation. There were no constitutional symptoms in our case series. Echocardiography is the investigation modality of choice for these myxoma's with a sensitivity of 95 % for transthoracic echocardiography (TTE) and 100% for transeosophageal echocardiography (TEE)[4] . In our series, the diagnosis was made with the aid of 2 D Echo and confirmed with intra-operative TEE.

Surgery is the main modality for management, given the embolic phenomenon of this myxoma. All patients were operated through standard median sternotomy with aortic and bi caval cannulation. During the conduct of CPB, utmost care is taken to prevent any manipulation of the heart lest tumor fragmentation and subsequent embolization would occur. Also we approached all of our cases through right atriotomy so that we could serially visualize all the chambers of heart to rule out any multi-centric foci. Also we never place a left ventricular vent, as during insertion, lest tumor fragmentation may occur. As these tumors are thought to be arising from pluripotent cells, the base of atrial septum is always included in the operative specimen. Every effort is taken to remove the tumor en-masse. The defect is closed with fresh autologous pericardial patch. All the myxoma extracted was attached to IAS. Out of all the myxoma extracted, one was at par with the largest quoted in the literature[5] . Fig 2

Surgical resection generally yields good results, with operative mortality of 5 percent or lower[6]. We had 1 post operative mortality in which the patient could not be extubated due to stroke and subsequently developed ventilator associated pneumonia, probably patient developed cerebral embolism during manipulation of the heart. 1 patient died after 5 years of surgery with neurological complication in form of stroke of which details are not available. All the remaining 6 patients are being followed up with no reoccurrenc

V. Conclusion

So, to conclude atrial myxomas are the most common tumor of the heart with very low operative mortality and excellent long term survival. Surgery needs to be done on an emergency basis for the fear of tumor fragmentation and subsequent embolization.

Figures

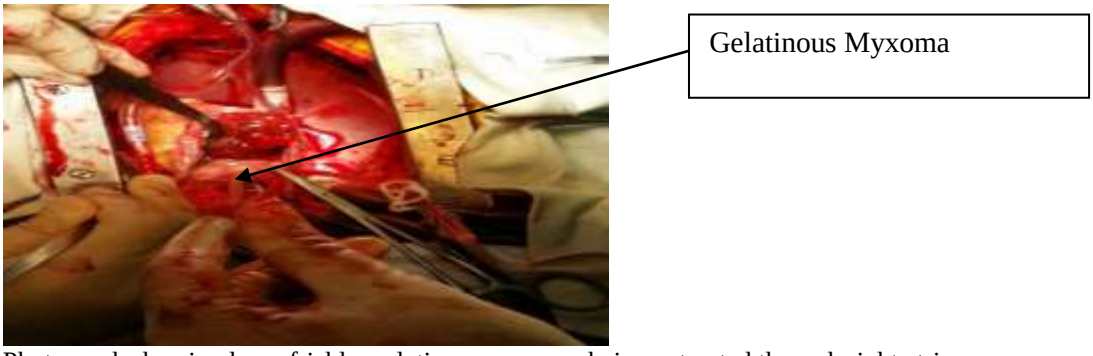

Fig 1: Photograph showing large friable, gelatinous myxoma being extracted through right atrium

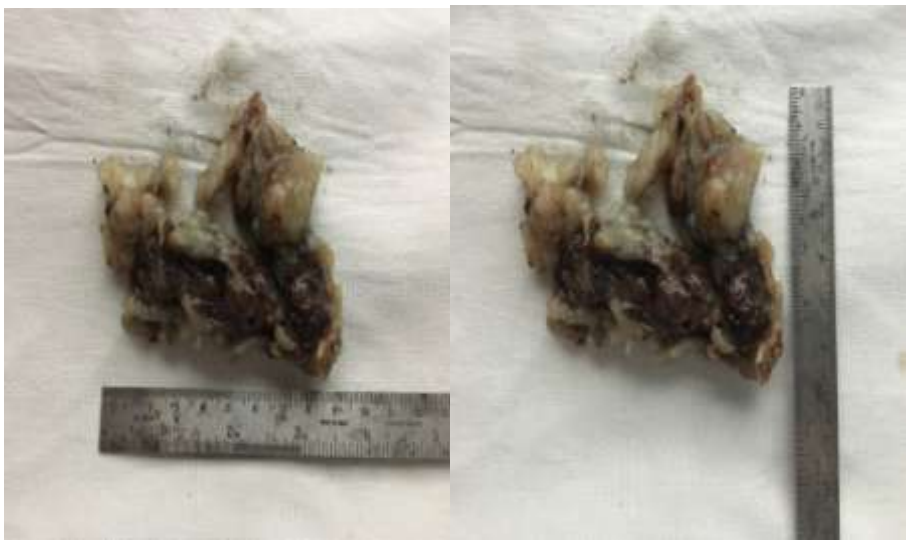

Fig 2: Operative specimen showing a large myxoma measuring 9.6 by 6.9 cm

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