

CARDIAC MYXOMAS — LOCAL EXPERIENCE IN PESHAWAR

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SUMMARY

We are presenting five cases of Atrial Myxomas which presented in our unit since 1993, with different clinical features like shortness of breath, congestive cardiac failure, constitutional symptoms of fatigue, fever, arthralgia and loss of weight. All cases were confirmed by echocardiography. Out of five patients, two left against medical advice after having been investigated and prepared for operation, three underwent excision of myxoma. One patient developed post operative jaundice on third post operative day which deteriorated to hepatic coma and died on 21st post operative day. When diagnosed a cardiac myxoma should be removed promptly to reduce cardiac and embolic complications.

INTRODUCTION

Cardiac myxoma is the most common tumour of heart, accounting for about half of primary cardiac tumours. Generally, cardiac myxoma presents as a pedunculated mass mostly in left atrium, developing in the fossa ovalis area of the septum and 85-90% are on the left atrial side of the septum, though it may arise in other sites such as the atrial appendage, right atrium and even ventricles.¹

Over the years there have been varying and conflicting views on the etiology and possible malignant potential of cardiac myxoma.² The tumour also has presented considerable diagnostic problems because of confusing constitutional symptoms, neurological symptoms from embolized tumour fragments and often changing cardiac symptoms.³

Although early attempts were made at the surgical treatment of cardiac myxomas, operative removal was not successful until 1954 when cardiac myxoma was excised with the aid of cardiopulmonary bypass.⁴

Since the tumour is infrequent, relative little experience in the treatment of patients with cardiac myxoma has been accumulated at individual cardiac centres. The present report deals with the surgical experience from five patients out of which three were operated upon for cardiac myxoma at this centre.

MATERIAL AND METHODS

The series consisted of five patients with cardiac myxomas. Four women and one man with the mean age of 38 years (Range: 35-55 years) There were two mitral valve tumours, two left atrial tumours and one right atrial tumour.

Clinical Evaluation

Pre operatively all patients had constitutional symptoms of fatigue, general arthralgia, weight loss. Cardiac symptoms were mainly exertional dyspnoea with periodic exacerbations. This occasionally amounting to episodes of frank pulmonary oedema in two patients in this series, which responded very well to antifailure treat-

ment. One case amongst the series was diagnosed by a physician, presenting with wandering murmur and repeated chest infection.

Site of Myxomas

1. Mitral Valve leaflets — 2
2. Left atrial septum — 2
3. Right atrial septum — 1

In all cases the diagnosis of cardiac myxomas was made during evaluation for suspected mitral valve disease. Routine echocardiographical screening was used for confirming diagnosis.

All patients were screened for Hepatitis B and all were negative. Out of five, two patients left the ward against medical advice and three underwent successful excision of the tumour.

Surgical Technique

The operation was performed with the aid of cardiopulmonary bypass, the heart was exposed via median sternotomy with aortic and bicaval cannulation and general hypothermia (30-28°C) with aorta cross clamped, topical cooling was employed and cardioplegic arrest was induced with St. Thomas Hospital cardioplegic solution. As all of the patients had left atrial tumours, the left atrial wall was incised first, parallel to the inter atrial groove at its superior portion. The incision was then gradually enlarged caudally to expose the tumour, the flaps of the incision being spread to expose the pedicle completely. The tumour pedicle with the underlying endocardium excised and the defect in endocardium was stitched. Left atrium was closed in two layers. The remaining procedure followed standard principles of cardiac surgery.

RESULTS

At operation all three tumours were pedunculated with stalks of around 1 cm in

length, with size ranging from 6-15cm in diameter. The weight of excised tumours ranged from 20-80 grams. Macroscopically tumours were solid and generally encapsulated. All the patients survived the operative procedure.

One patient developed jaundice on the third post operative day for which gastroenterologist was consulted. Ultrasound showed cirrhotic pattern of liver with hepatitis screen negative repeatedly. Though history of jaundice was elicited from close relative, this was not disclosed pre-operatively. Patient deteriorated to hepatic coma and died on 21st post-operative day. Two patients were discharged on average 12th post operative day.

In rest of the patients on early follow up, the pre-operative constitutional and cardiac symptoms had disappeared. Post operative echocardiography confirmed complete excision of the tumours and no mitral regurgitation.

DISCUSSION

All of our patients had cardiac and constitutional symptoms which might have been misdiagnosed as mild rheumatic mitral valve disease. The correct diagnosis of cardiac myxoma will undoubtedly be made by echocardiography in the evaluation of mitral valve disease and function. When the diagnosis is made, operation should be performed without delay to prevent tumour embolization and further deterioration of cardiac function. Embolization probably does not readily occur in solid capsular myxomas. However when a gelatinous fragile myxoma is present embolization is much likely to occur. It seems relevant to inspect all cavities and also the external surface of the heart for tumour.

A further important consideration at operation is the treatment of valvular involment.⁵ Where myxomatous growth is impinging upon the valve structure, valve

excision and prosthetic replacement may be needed.

In our series we excised two myxomas from the small area of anterior leaflet of the mitral valve but valve replacement was not considered as there was no damage to the leaflets. Even mild regurgitation disappears in due course of time⁶ however annuloplasty might be indicated in case of poor left ventricular function to reduce cardiac failure from valve regurgitation during early post operative period.⁷ It seems that tricuspid ostial dilatation from tumour impaction is more likely to persist post operatively.⁸ This could be due to poorly developed fibrous annular tissue of the tricuspid ostium and a compact consistency of right atrial tumour, which more often seem to be calcified. Therefore, tricuspid annuloplasty should be performed in case of tricuspid ostial dilatation due to right atrial myxoma.^{9,10}

Only infrequently has massive tumour embolism been reported to occur in patients with cardiac myxomas. More commonly, repeated embolization of small tumour occur.¹¹ None of our patients presented with embolic phenomena. Occasionally, aneurysms have been caused by embolic myxomatous cells which continued to grow for a long enough time to invade the arterial media especially in the brain.¹² In cases of right atrial myxomas, clinically evident embolic events are uncommon. Nevertheless, there have been reports not only of embolization of tumour fragments into pulmonary vessels, with subsequent pulmonary hypertension¹³ but also of lethal fulminant pulmonary embolism in cases of right atrial and ventricle myxomas.

A number of factors yet remain to be explained with regard to both generalized constitutional symptoms and the effects on plasma proteins.¹⁴ Elevated globulin levels are associated with raised ESR and increased levels of C-reactive proteins.¹⁵ Further non specific symptoms may be

related to the seedling of multiple small emboli to muscles and joints, and haemorrhage or degeneration with in the tumour.

The malignment potential of cardiac myxoma was first discussed in 1967 after Gerbode, Kerth and Hill² described the first recurrent growth of septal tumour. Since then a number of recurrences have been reported. More than thirty five recurrent myxoma have been reported¹⁶ most were diagnosed during the first four years after surgical removal of the first tumour but the tumour recurred in two cases after 10 and 14 years.¹⁷ The risk of recurrence is either because of multifocal or incomplete excision of the tumour. The overall risk of recurrence is about 12 and 22% for familial and complex myxomas and about 1-3% for sporadic tumours. So patients should be followed up for at least four years of initial period as there is a high risk of recurrence in this period. For follow up echocardiography is a convenient non invasive method for assessing atrial structures and excluding recurrent tumour growth.

Although cardiac myxomas are histologically benign, they may be lethal because of their strategic position. They can mimic not only every cardiac disease but also infective, immunologic and malignant processes. Myxomas must therefore be included in differential diagnosis of valvular heart disease, cardiac insufficiency, cardiomegaly, bacterial endocarditis, disturbances of ventricular and supra-ventricular rythum, syncope and systemic or pulmonary embolism. Echocardiography, including trasesophageal approach is the most important means of diagnosis. Operation should be performed as soon as the diagnosis is made to avoid acute cardiac failure and tumour embolism. The patients should be observed closely during the first 4 years after operation to detect recurrence.

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