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A study on cardiac myxoma

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Abstract
Cardiac myxomas represent the most common primary cardiac tumours, with an estimated incidence of 0.5 per million individuals annually. It is considered as a benign neoplasm. Although it can occur in almost any age, usually patient age ranges from 30-60 years, with a female predilection. Clinically myxomas may present with a variety of symptoms such as obstructive cardiac, embolic and constitutional. Dyspnoea, thoracic pain, cough, dizziness and heart failure.

Keywords: Myxoma, cardiac tumours, pain, cough, dizziness and heart failure

Introduction
A myxoma is a rare benign tumor of the heart. Myxomas are the most common primary cardiac tumor in adults, and are most commonly found within the left atrium. Myxomas may also develop in the other heart chambers. The tumor is derived from multipotent mesenchymal cells. Although a myxoma is not malignant with risk of metastasis,[4] complications are common. Untreated, a myxoma can lead to an embolism (tumor cells breaking off and traveling with the bloodstream). Myxoma fragments can move to the brain, eye, or limbs.
If the tumor continues to enlarge inside the heart, it can block blood flow through the mitral valve and cause symptoms of mitral stenosis or mitral regurgitation. This may require emergency surgery to prevent sudden death [7].
Cardiac myxomas represent the most common primary cardiac tumours, with an estimated incidence of 0.5 per million individuals annually [1]. It is considered as a benign neoplasm. Although it can occur in almost any age, usually patient age ranges from 30-60 years, with a female predilection [2]. Clinically myxomas may present with a variety of symptoms such as obstructive cardiac, embolic and constitutional [3]. Dyspnoea, thoracic pain, cough, dizziness and heart failure are the usual obstructive cardiac signs and this is due to tumour prolapse into the mitral orifice [3].
Peripheral or pulmonary emboli or stroke are the embolic manifestations [4]. Arthralgia, myalgia, fever, rash, weight loss, cachexia, fatigue, Reynaud's phenomenon are the constitutional symptoms and they are related to the production of IL-6 by tumor cells [3, 5].
Over 72% of primary cardiac tumours are benign and myxomas account for 80% of all cardiac tumours [6]. Myxomas are composed of cells, primitive capillaries, and foci of extramedullary haematopoiesis within a myxoid matrix of acid mucopolysaccharide. They are considered to arise from multipotential mesenchymal cells capable of differentiating into various types of cells, a view supported by the finding of bone and bone marrow tissue in myxomas [7]. Although therapy as well as the antemortem diagnosis of this pathological entity seems to be very successful, the underlying cause still remains unclear.
The interleukin-6 and endothelial growth factor have been identified as markers of these tumours [8, 9]. About 10% of cardiac myxoma is familial and almost all are related to the Swiss-Carney syndrome. This is a multiple neoplasia and lentiginosis syndrome.
The sporadic tumours that represent the majority of this pathology and thee tumour lack a clearly defined pathological cause [10]. Myxoma occur in older adults and are two to three times more common in women than in men [11]. They are rare in children and have not yet been described in infants [12].

Aims and Objectives

To study the cardiac myxomas

Materials and Methods

This study was done in the Department of Surgery at Srinivas Institute of medical Sciences, mangalore. This study was done from Feb 2018 to March 2019. Twenty one cases was the sample size of the study. The signs and the symptoms were noted. All tumours were histologically proven to be cardiac myxoma. Details data were collected from the operation data base and the patient records. Transthoracic echocardiography was the diagnostic tool in all cases. The historical longitudinal study was performed. All patients underwent operation soon after the diagnosis of a myxoma was made. Cardiopulmonary bypass was established with aortic and bicaval canulations. Routine St Thomus II root cardioplegia was used in all cased. Right atrial approach was done in all cases. Complete tumour excision was performed in all cases.

Results

Table 1: Age Distribution

15-20 years	01
21-30 years	11
31-40 years	04
41-50 years	02
50-60 years	03

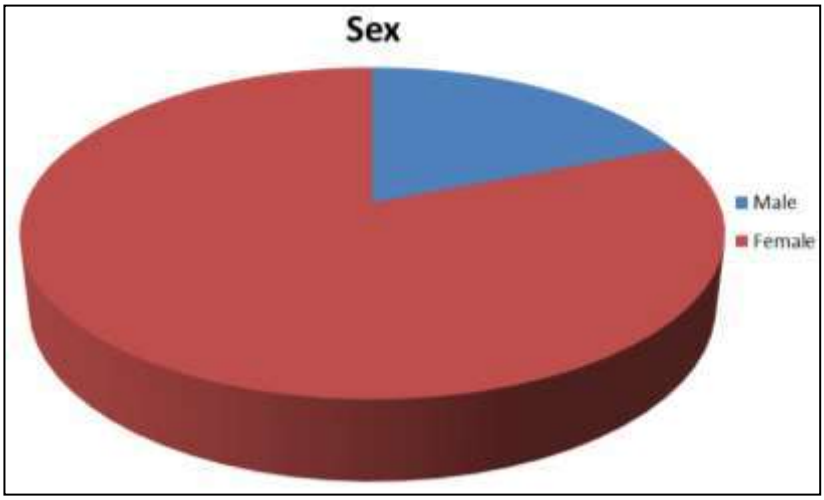

Fig 2: Sex Distribution

Table 2: Signs and symptoms

Dyspnoea on Exertion	**15/21 patients**
Palpitations alone or with Dyspnoea on Exertion / Palpitation / Syncope / CV Accidents	08
Dizziness / Syncope	03
CV Accidents	3
Constitutional Symptoms alone or with Dyspnoea on Exertion / Palpitation / Syncope / CV accidents	07

Diagnosis was confirmed in 100 percent by transthoracic echocardiography

Table 3: Location

Right Atrium	01
Left Atrium	18
Right Ventricle	01
Tricuspid Valve Annulus	01

Discussion

The presenting clinical feature of cardiac myxoma depend on it location, size, and mobility inside the heart. Symptoms range from non-specific to constitutional to sudden cardiac death. Myxoma are asymptomatic and are discovered as an incidental finding in about 20% cases. Most patients present with one or combination of symptom of exertional dyspnoea, palpitation, embolism, and constitutional symptoms. Cardiac myxoma patients, two third of patients has symptoms of heart failure or syncope and rest one third of them presented with systemic embolization [5, 13]. Echocardiography is the investigation of choice and it gives diagnosis with fair degree of accuracy. It can fairly define tumour location, size, shape, attachment, and mobility and presence of the tumour multiplicity in other chambers of heart. It is non-invasive and avoids the risk of tumour embolization. The transoesophageal echocardiography approach is particularly helpful in detecting the site of insertion and morphological features of atrial and ventricular myxomas. [14] Transthoracic and transoesophageal echocardiography has sensitivity of 95% and 100% respectively for the diagnosis of myxoma [15].

Conclusion

Diagnosis was confirmed in 100 percent by transthoracic echocardiography. Prompt diagnosis and treatment is the need of the hour for this pathology. Precious lives can be saved and this paper is intended to be of great help to the budding surgeons and they should always have this in the differential diagnosis.

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