



Case Report

## An Amazing Case of Left Atrial Tumor

Ruqia Asna Rabah<sup>1</sup>, Farqana Qushnood<sup>2</sup>, Shakeel Ahmed Khan<sup>3</sup>, Khudsya Fatima<sup>4</sup>

<sup>1</sup>Sr. Specialist, Dept. of Medicine, District Hospital, Gulbarga.

<sup>2</sup>Assistant Professor, Department of Physiology, GIMS, Gulbarga

<sup>3</sup>Pediatrician, Dept. of Pediatrics, Al-noor Speciality Hospital, Gulbarga.

<sup>4</sup>Jr. Resident, Dept. of Medicine, District Hospital, Gulbarga, Karnataka, India.

Corresponding Author: Ruqia Asna Rabah

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### ABSTRACT

This is a case report of a patient with history reduced vision and had been posted for cataract surgery. Patient was send to medicine department for fitness for cataract surgery. During her evaluation she was found to have a large la mass. The amazing thing with the patient was that she was absolutely having nill cardiac symptoms. Her echocardiograph was done and she was referred to cardiothoracic surgeon and was successfully operated for la mass and later followed by cataract surgery.

**Key Words;** Atria, Cardiac Tumor, Myxoma

### INTODUCTION

Cardiac tumors are abnormal growths in the heart or heart valves. There are many types of cardiac tumors. But cardiac tumors in general are rare. The tumors can be cancerous (malignant) or noncancerous (benign). Tumors that begin growing in the heart and stay there are called primary tumors. <sup>[1]</sup> Tumors that start in another part of the body and move to the heart (metastasize) are called secondary tumors. Most cardiac tumors are benign. But even benign tumors can cause problems because of their size and location. Sometimes small pieces of tumor fall into the bloodstream and are carried to distant blood vessels and get in the way of blood flow to vital organs (embolism). <sup>[2]</sup>

A small percentage of patients with cardiac tumors have a family history of the

condition. Sometimes, the tumors can be part of another health condition such as NAME Syndrome, LAMB Syndrome or Carney Syndrome. Most often the tumor develops without any of those conditions or family history. They are the result of cell overgrowth that either starts in the heart or moves to the heart. The most common primary tumor of the heart is the myxoma. In surgical series the myxoma makes up as much as 77% of all primary tumors of the heart. <sup>[3, 4]</sup> Less common tumors of the heart include Lipoma and cystic tumor of the atrioventricular nodal region. An atrial myxoma is a noncancerous tumor in the upper left or right side of the heart. It grows on the wall that separates the two sides of the heart. This wall is called the atrial septum. They are more common in women than men. <sup>[5]</sup>

The availability of numerous noninvasive imaging modalities has enhanced the clinician's ability to diagnose many cardiac diseases, including cardiac masses. The first of these ECHO was introduced into routine clinical practice during the 1960s. With its use has come an extraordinary rise in the preoperative and ante mortem detection of cardiac tumors. [7, 8] Its low cost and liberal use in the patient with suspected cardiac disease results in the detection of the vast majority of primary heart tumors. However, although ECHO is very sensitive in predicting the etiology of most intracavitary cardiac masses (i.e., myxoma), it is less reliable in determining the nature of intramural or extra myocardial lesions. [8, 9]

In our case the patient had come with history of diminished vision and was planned a cataract surgery. She was send to medicine department for fitness for surgery. When she was evaluated for the same, a big left atrial mass was detected.

### CASE REPORT

A female patient aged 60 years came for obtaining fitness for cataract surgery. She had history of diminished vision. She did not have any history pertaining to cardiac problems. She never had history of chest pain or breathlessness. She was able to carry out her activities of daily life without any difficulties.

**EXAMINATION;** It revealed a female patient with age 60 years moderately built and nourished. Her pulse was normal and her blood pressure was 110/70. Her cardiovascular system examination showed presence of a murmur similar to mid diastolic murmur. This raised the possibility of considering that, the patient had mitral stenosis. Other systems were in the normal limits.

**INVESTIGATONS;** 10.5gm%. Total count of 16,000cells/cumm and DC of N-62%,L-

34%,E-03%,and M-01% with ESR of 10mm/hr .Her blood urea was 45mg/dl and serum creatinine was 1.3mg/dl. Urine examination showed the presence of few pus cells and rbc. Her electrocardiogram was taken which showed changing P wave morphology. Her echocardiograph examination showed the presence of a large left atrial mass attached to interatrial septum.

The mass was freely mobile and measured 5.28x4.56 cms.



Fig1.Four chamber view in ECHO showing large la mass.

During echocardiograph examination the mass appeared non homogenous. It was protruding into left ventricle during diastole. Probably this was the reason why the patient had mid diastolic murmur.



Fig 2. 2 D ECHO of four chamber view showing non homogeneous mass protruding into left ventricle.

Color flow imaging showed mosaic pattern indicating presence of mitral regurgitation.

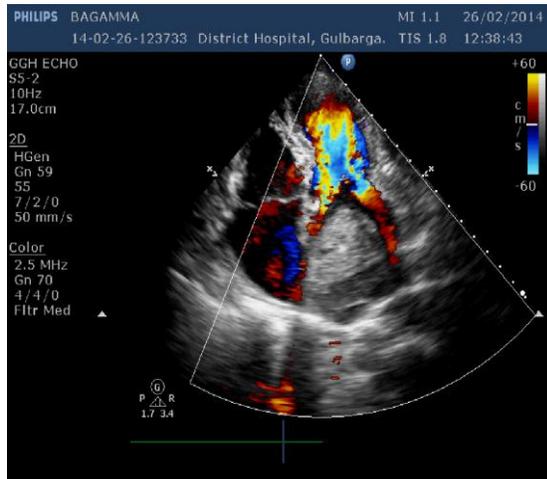


Fig 3. Four chamber view in 2 D ECHO showing mosaic pattern.

## CASE DISCUSSION

The first description of a tumor mass in the heart was made by Columbus in 1562. [1, 2] A more detailed medical report of a primary cardiac tumor, written in 1835 by Albas, described a myocardial fibroma found on a postmortem examination. In 1936 Barnes aided by an electrocardiogram and biopsy of a peripheral metastatic lesion was the first to diagnose a primary tumor of the heart in a living patient. Goldberg et al. used angiography to establish the diagnosis of a cardiac tumor in the early 1950s. [3] Crafoord, in one of the earliest cardiac surgeries performed in Sweden, was first to successfully remove a primary cardiac tumor in 1954. [4, 5] Using a thoracotomy approach he resected an atrial myxoma from a 40-year-old woman who initially was referred for atypical mitral stenosis. The end of the 1960s brought the advent of ECHO and an exponential rise in the diagnosis of cardiac masses. Prior to this the great majority of cardiac tumors were discovered at postmortem examination. [4, 5]

Primary cardiac tumors are rare and few surgeons have extensive experience in

managing them. Autopsy series report an incidence of between 0.001-0.03% in the general population. [6, 7] Primary cardiac tumors are encountered in every age group and there is a modest female predominance. The majority are histologically benign accounting for 70-80% of all tumors that arise in the heart. [6, 7] The most common benign lesions in decreasing order of frequency are myxoma, lipoma, papillary fibroelastoma, and rhabdomyoma. [7]

Malignant primaries are most frequently angiosarcomas, rhabdomyosarcomas or fibrosarcomas. They account for approximately 25% of all primary cardiac tumors in adults but <10% in the pediatric patient group. [8, 9] The prevalence in male and female populations and in the left and right atria is approximately equal. Unfortunately, reported malignant heart tumors have been almost universally fatal and this is echoed in the authors experience with all patients dying within a year of their diagnoses. [8, 9]

Because of the critical nature of the cardiac structures that are involved, even benign cardiac tumors can cause significant increase in morbidity and mortality. The consequences of a tumor depend on its size, invasiveness, friability, rate of growth and most important its location in the heart (anatomic site and intracavitary versus intra/extra myocardial growth). Serious complications can occur even in patients with benign tumors like CHF, dysarrhythmias, syncope, pericardial tamponade, thromboembolic phenomenon, angina, myocardial infarction, and of course death. [8, 9] These clinical presentations may resemble those of other cardiac diseases such as coronary atherosclerosis, cardiomyopathy, pericarditis, or valvular dysfunction. [7, 8, 9] Constitutional symptoms are not uncommon in these patients. Reports of fevers, chills, night sweats, weight loss, etc. are believed to be due to the release of

systemic inflammatory mediators such as interleukin-6. Unusual presentations, including cerebral aneurysm formation after embolism of myxomatous tissue to the brain have also been described. [8,9]

Cardiac masses were only rarely diagnosed prior to the middle of this century because of the poor sensitivity of patient history, physical exam, chest X-ray, and electrocardiogram, as well as a low index of suspicion on the part of the clinician. Cardiac catheterization brought the first real advance in the ante mortem diagnosis of primary cardiac tumors. [9, 10] However, this modality has limitations in that it is invasive and puts the patient at risk of tumor embolism during the procedure and misses the diagnosis in approximately one-third of cases.

The availability of numerous noninvasive imaging modalities has enhanced the clinician's ability to diagnose many cardiac diseases including cardiac masses. The first of these, ECHO, was introduced into routine clinical practice during the 1960s. With its use has come an extraordinary rise in the preoperative and ante mortem detection of cardiac tumors. Its low cost and liberal use in the patient with suspected cardiac disease results in the detection of the vast majority of primary heart tumors. [9, 10] However, although ECHO is very sensitive in predicting the etiology of most intracavitary cardiac masses (i.e., myxoma), it is less reliable in determining the nature of intramural or extra myocardial lesions. [9,10]

In response to this, other diagnostic methods such as CT and MR scanning have recently become the focus in the evaluation of primary cardiac tumors. These two technologies are very sensitive in determining the presence, site, and nature of a cardiac mass. In the authors experience CT was found to be more useful than MR in predicting extra cardiac extension of the

tumor. However, MR imaging was better at establishing the amount of myocardial and great vessel involvement. These days three-dimensional ECHO may be able to accomplish the same tasks. [10, 11] Metastatic lesions (e.g., renal) also have a predilection for the right atrium. Therefore, identification of a right atrial mass is much more likely to presage eventual identification of a malignant etiology than a left atrial mass. [11]

The basic premise for the treatment of primary cardiac tumors, malignant or benign, has not changed during the history of cardiac surgery. Resection is the only available form of curative therapy. Initiation of treatment should be expeditious because an estimated 8% of patients die while waiting for surgery.

Myxomas are most commonly attached to the interatrial septum in the region of the fossa ovalis cordis. In these situations the tumor can be removed with a negative surgical margin by taking a rim of the interatrial septum around the base of the myxoma. Occasionally simple extirpation may not be possible because the lesion involves myocardial wall or valvular structures. Extensive resection of cardiac tissue with reconstruction of the myocardial chamber and repair or replacement of an adjacent valve is then required. Regardless, complete removal of a primary cardiac tumor can usually be performed with a low complication and mortality rate. [11]

#### **Differential Diagnosis:**

1. Mitral stenosis
2. Parachute mitral valve
3. Floppy mitral valve

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