

**AN INTERESTING CASE REPORT
OF A RARE CARDIAC TUMOR:
CARDIAC LIPOMA**

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Case Details

- A 60 years old , Male
- Chief complaints:
 - Dyspnoea on exertion (NYHA-III),
 - occasional chest pain not related to exertion x 1 mth
 - Abdominal discomfort since 1 week.
- No history of syncope, palpitations and angina on exertion.
- No H/O Hypertension, Diabetes Mellitus and no H/o addictions.
- No significant family history.

On Evaluation:

- HR-78 bpm BP-110/70 mm of hg
- SpO₂-98% on room air

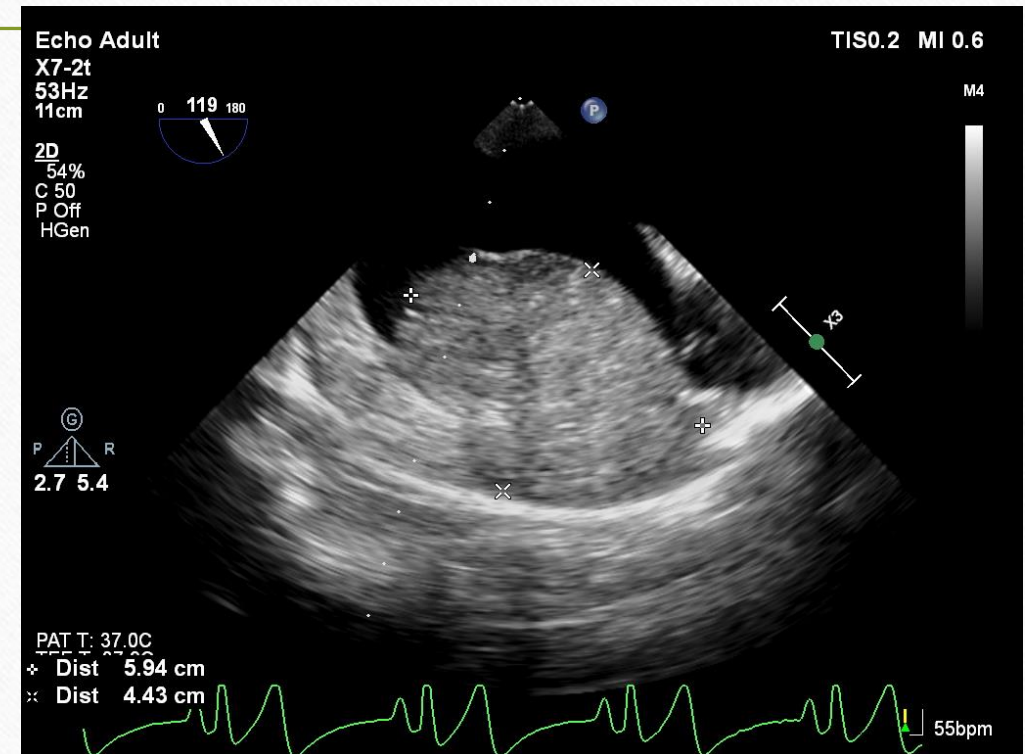
On systemic examination : Cardiovascular examination-

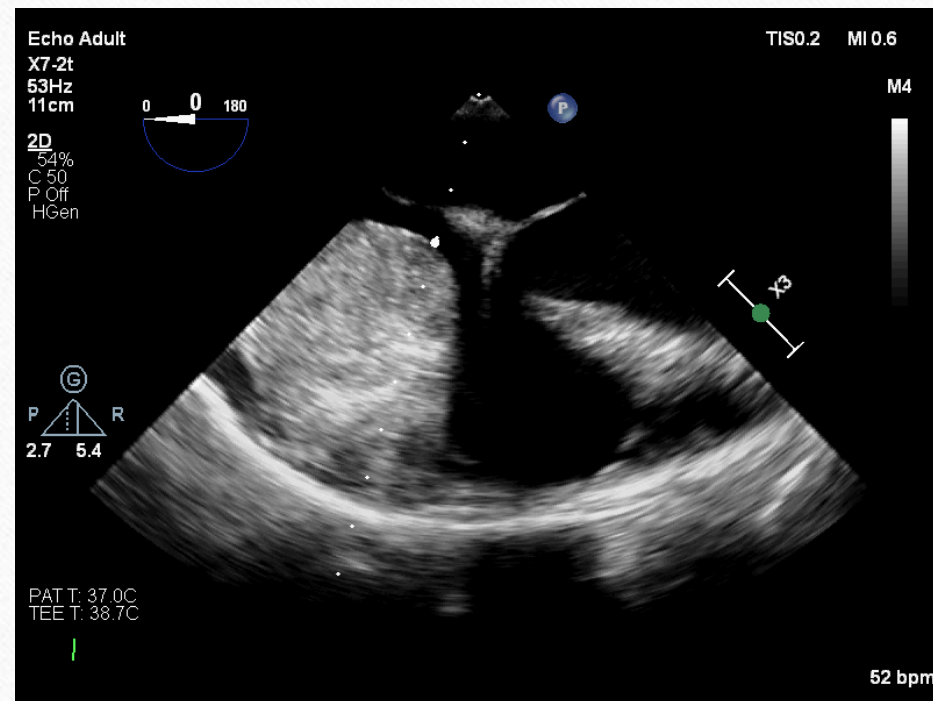
- JVP- Raised
- On auscultation- S1,S2 normal, tumor plop +
- Laboratory reports – within normal range.
- ECG: Normal Sinus Rhythm.

2D Echocardiography :

- Large mass in Right Atrium 5 X 5 cm
- ?Right atrial tumour, ?? Myxoma
- Severe Tricuspid Regurgitation, dilated annulus.
- Good biventricular function .
- No MR/ AR.
- No effusion, vegetation seen.

Coronary Angiography:-Non obstructive CAD with slow flow.



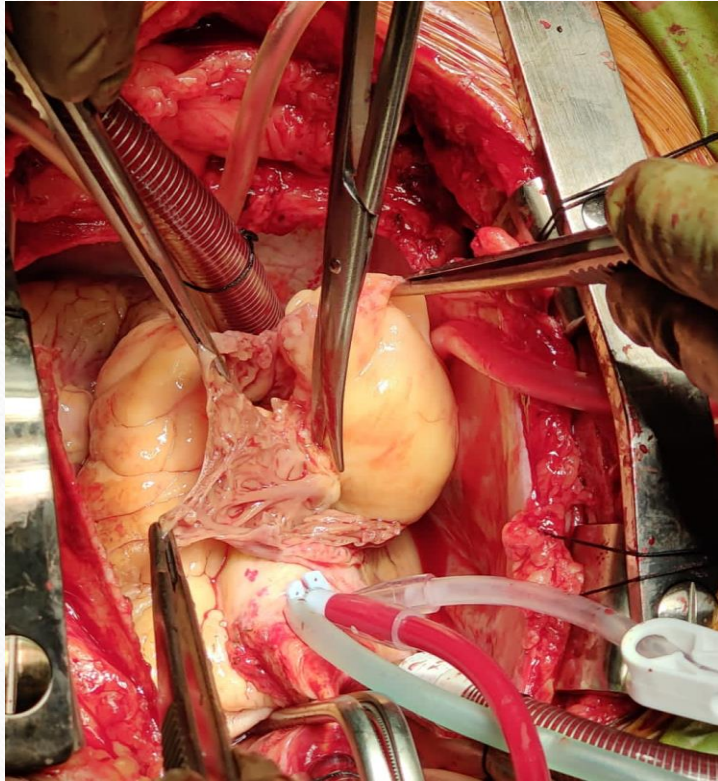


Surgery

- Provisional diagnosis: Rt atrial Cardiac Tumor ? Myxoma
- Urgent surgery advised in view of obstructive symptoms .
- Approached through standard midline sternotomy
- intraoperative findings :
 1. Large heart with dilated RA/RV
 2. 5 x 5 cm mass arising from IAS, RA wall.
 3. Tumour impinging on tricuspid valve with Severe TR.
- complete resection of the right atrial mass with debulking of the inter-atrial septal component of the tumour and fulguration of the surrounding area.
- **Devega's annuloplasty** for tricuspid valve repair.



Video.mov



Resection Of right atrial
mass in progress



Resected cardiac mass measuring
5x5 cm

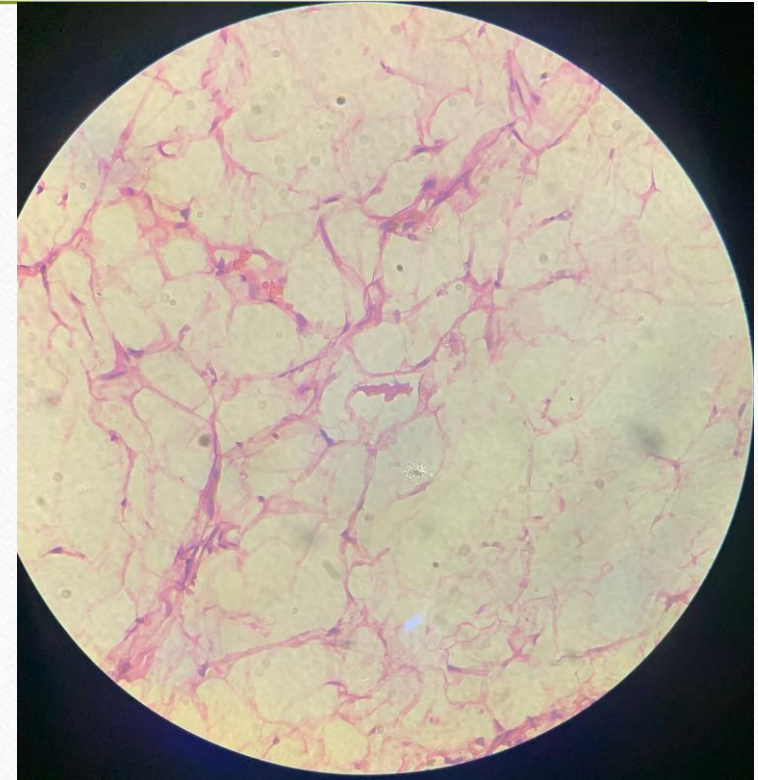
Post-operative TEE report:

1. No mass in situ.
2. Trivial TR, annulus reduced in size.

The patient tolerated the procedure well without any complication and had an uneventful recovery

Histopathology Report

- **Gross examination:** Single yellow nodular **encapsulated** tissue measuring 5.5 x 4.5 x 2 cm.
- Cut surface- **Smooth, yellowish surface.**
- **Microscopy:**
 - well circumscribed lesion comprising of **only mature adipocytes in sheets.**
 - Surrounding fibrous bands show small strip of myometrial tissue.
 - **Myocytes not infiltrating the lesion.**
 - **No Stellar or myxoma cells seen.**
- **Diagnosis : RIGHT ATRIAL LIPOMA**



Review of literature- Cardiac Lipoma

- Primary tumours of the heart are uncommon. However, in the current era of sophisticated diagnostic imaging, their prevalence is increasing.
- The overall prevalence of primary cardiac tumours is between 0.17%-0.19%.
- Of these 75% are benign, with cardiac myxomas being the most common in adult
- Cardiac lipomas represent only 8.4% of primary cardiac tumours.
- They can originate either from sub endocardium (50%), sub pericardium (25%) or from the myocardium (25%) and may be located more frequently in the right atrium or the left ventricle.

Primary cardiac tumours

Benign (75%)

- Cardiac myxoma- most common in adults.
- **Cardiac lipomas (8.4%)**
- Cardiac rhabdomyoma- most common in children
- Cardiac fibroma
- Cardiac hemangioma
- Cardiac paraganglioma
- Pericardial teratoma- can rapidly grown despite being benign

Malignant (25%)

- Cardiac angiosarcoma- most common.
- Undifferentiated pleomorphic sarcoma of the heart
- Cardiac leiomyosarcoma
- Cardiac spindle cell sarcoma
- Cardiac fibrosarcoma
- Cardiac liposarcoma
- Primary cardiac osteosarcoma
- Primary cardiac lymphoma
- Pericardial mesothelioma

Clinical presentation

- Cardiac lipomas can occur at any age, typically seen in **fifth and sixth decades** of life , and **affects both sex equally**.
- Clinical manifestations of cardiac lipomas depend on tumour size and location.
- Asymptomatic with small lesions or develop compressive or obstructive symptoms as the tumor increases in size.
- Intracavitary lesions can manifest as dyspnoea secondary to obstruction of blood flow.
- Syncope, arrhythmia, palpitations and angina are other symptoms

Pathogenesis

- Most cardiac lipomas are composed of mature white adipose tissue, while cardiac lipomas composed of foetal brown adipose tissue also known as “Hibernoma” have also been reported in several cases.
- Pericardial lipomas may even result in myocardium resorption with cavitation and communication with cardiac chambers, thus forming a pseudo-aneurysmal appearance.
- In addition, solitary lipomas involving multiple cardiac cavities across the myocardium have been reported. Suggesting that the benign mass has great capacity of infiltrative growth.
- The infiltrative growth pattern has been postulated as a result of gradual invagination of the firm lipomas into the pliable cavity wall with the process of repetitive systolic contraction .

Diagnosis

- The initial diagnostic test with a suspected cardiac mass is echocardiography.
- Cardiac lipomas are seen as homogeneous hyperechoic masses within cardiac chambers or hypoechoic masses within the pericardium, however exact nature cannot be determined based on acoustic property.
- CT and MRI (particularly MRI) are used for accurate diagnosis and comprehensive evaluation.

Treatment

- There are no guidelines on the treatment of cardiac lipoma. Since the first successful removal of a pericardial lipoma reported in 1952, more cardiac lipomas have been resected.
- Radical resection of the tumour remains the mainstay treatment.
- It is important to remove the entire tumour with the capsule and pedicle to prevent tumour recurrence .
- Recurrence after surgical resection is extremely rare but has been reported.
- Resection of the recurrent lipomas is extremely challenging and heart transplantation may provide the ultimate solution.

Take home message:

- Cardiac tumors though rare and mostly benign, can be life threatening with obstructive symptoms.
- Early surgical excision is the mainstay treatment and usually leads to complete recovery .
- Complete excision is necessary to prevent recurrence.
- Immediate symptomatic relief leading to return to normal life expectancy is very gratifying as can be seen in this case.

Thank you .