Rare Myxoma Arising from Posterior Wall of Left Atrium

Noam H. Grysman BSc1,3*, Abdulla Watad MD1,3*, Efrat Ofek MD2, Boaz Tzur MD1 and Howard Amital MD MHA1,3

Departments of 1Medicine B and 3Pathology, Sheba Medical Center, Tel Hashomer, Israel
3Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel

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**CASE COMMUNICATIONS**

Cardiac myxoma is an extremely rare condition, with an annual surgical incidence of 0.5 per 1,000,000 and an estimated incidence of 0.0017-0.19% at autopsy [1,2]. Although rare, it is the most common benign primary tumor of the heart [3]. The treatment is urgent surgical removal, and the post-treatment prognosis is excellent with low operative and postoperative mortality [4]. Diagnosis of cardiac myxoma is difficult as it presents with varying non-specific symptoms [4]. Such patients are at risk since untreated cardiac myxoma can lead to sudden cardiac death or embolization.

Confirmation of a diagnosis of cardiac tumor is most often by echocardiogram but can also be by magnetic resonance imaging (MRI), computed tomography (CT), or angiography [3,4]. True diagnosis of myxoma can be reached only by histology after excision of the mass.

Seventy-five percent of cardiac myxomas are found in the left atrium, and of the left atrial myxomas 80% arise from the fossa ovalis [4]. Only 5% of left atrial myxomas (or 3.75% of all cardiac myxomas) are found attached to the left posterior wall of the left atrium [4]. Care must be taken at surgical removal to ensure that the entire mass is removed as any fragment presents a risk of embolization [3]. This is especially important if the myxoma ruptures during removal.

PATIENT DESCRIPTION

A 51 year old female presenting to the emergency room of Sheba Medical Center, Tel Hashomer, complained of shortness of breath, exertional dyspnea, dizziness and heart palpitations. Physical examination revealed tachycardia and tricuspid regurgitation, without other significant findings. Echocardiogram revealed a mass in her left atrium of approximately 44.5 x 56.5 mm [Figure A and B] and confirmed severe tricuspid regurgitation as well as severe pulmonary hypertension. She was scheduled for emergent surgical removal. During surgery the mass ruptured, requiring extra care to ensure that no fragment of the mass was left in the left atrium. Gross examination of the mass revealed a smooth pedunculated mass of 60 x 50 x 30 mm [Figure C], with a stalk 20 mm in diameter, arising from

**[A]** Image of left atrial myxoma on trans-thoracic echocardiogram. The white arrow indicates open mitral valve during diastole. Of note is the small gap between the mitral valve and the myxoma allowing blood flow, albeit highly restricted.

**[B]** Image of left atrial myxoma on trans-esophageal echocardiogram. White arrows indicate mitral valve. Of note is the small gap between the mitral valve and the myxoma allowing blood flow, albeit highly restricted.

**[C]** Gross appearance of left atrial myxoma after removal. Note the myxoma had ruptured during the process of removal. Approximate measurement is 60 mm in length. When sent to histology, the tumor was measured and confirmed to be 60 x 50 x 30 mm.

*M = myxoma, LA = left atrium, LV = left ventricle, RA = right atrium, RV = right ventricle*

*The first two authors contributed equally to this study*
Cardiac myxoma removal can result in incomplete removal, incomplete tumors carry the danger of metastasis if treatment of other tumors is much more dangerous than metastasis or end-organ failure. Treatment of cardiac is more difficult to reach during surgery. Care must be taken to remove the myxoma in its entirety in order to reduce the risk of recurrence.

Our case illustrates one of the greatest dangers of myxoma – the danger of misdiagnosis. The patient's myxoma was rarer, arising from the posterior aspect of the left atrial wall. As a result the removal was more difficult, as the stalk of the tumor was more difficult to reach during surgery. Care must be taken to remove the myxoma in its entirety in order to reduce the risk of embolism and recurrence, as mentioned earlier.

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Several months later, our patient was asymptomatic and had no further manifestations. A follow-up echocardiogram confirmed total myxoma removal and ruled out the possibility of recurrence.

In conclusion, cardiac myxoma is a rare type of tumorous growth found in a very small subset of the population. It presents with non-specific symptoms and the treatment is emergency surgery. Echocardiogram is the single most important method to diagnose a cardiac myxoma, as it is non-invasive, cost-effective and highly sensitive. We have presented a case of a rare cardiac myxoma arising from the posterior aspect of the left atrial wall, diagnosed by echocardiogram and confirmed by histological analysis.

**Reference**


**Capsule**

A GRK2 peptide prevents heart failure

During cardiac hypertrophy, sustained high blood pressure causes the heart walls to thicken to deal with the increased load. If left unchecked, cardiac hypertrophy leads to heart failure. A particular part of the kinase and scaffolding protein GRK2 inhibits a G protein that promotes cardiac hypertrophy. Schumacher et al. generated mice that over-expressed a peptide of this inhibitory region of GRK2 in the heart. Under conditions that cause heart failure, these mice developed less cardiac hypertrophy and retained greater cardiac function.

**Correspondence**

Dr. A. Watad
Dept. of Medicine B, Sheba Medical Center, Tel Hashomer 52621, Israel
Phone: (972-3) 530-2435
Fax: (972-3) 535-4796
e-mail: watad.abdulla@gmail.com

**References**


“If you have knowledge, let others light their candles in it”

Margaret Fuller (1810-1850), American journalist, critic, and women’s rights advocate