Acta Scientific Clinical Case Reports

Volume 4 Issue 5 May 2023

Case Report

Left Ventricle Primary Cardiac Tumor (Fibroma) in an Younger: A Case Report

Dr Abdul-Aziz Qasem Mohammed AL-Ga'adi*

Consultant Cardiac Surgery, Head Department of Cardiac Surgery, Military Cardiac Center, Yemen

***Corresponding Author:** Dr Abdul-Aziz Qasem Mohammed AL-Ga'adi, Consultant Cardiac Surgery, Head Department of Cardiac Surgery, Military Cardiac Center, Sana`a.Yemen.

Received: March 29, 2023

Published: April 27, 2023

Abstract

There is a very low prevalence of cardiac tumor (fibroma)in the Younger population. Cardiac fibromas arise from heart fibroblasts, and these tumors are primarily located in the ventricles or in the interventricular septum. Symptomatic tumors are treated by resection. By contrast, asymptomatic tumors require a long-term follow-up or surgical resection as a preventive measure to avoid complications. The present study reports the case for Young female patient 25 years old presented with palpitation with pre-syncope for 6 months. ECG showed Sinus rhythm, Echo Showed Elongated mobile Mass attached to the mid part of the IVS swinging in LV, protruded through Left Ventricular Outflow Tract creating transient gradient estimated by 110 mmhg, this mass hits aortic valve leaflets lead to mild regurgitation grade I-II/IV The Mass measured by 29 x 22mm in diameter (Myxomas can't be excluded).

CT Showed LV mass 26 x 20 mm prolapsed to the aortic sinus of valsalva and the aortic root seem adherent to the Left Ventricle wall. After IV contrast these lesion appear hypodense mass with minimal enhancement. The patient underwent surgical excision of the tumor, and Sample sent for histopathological examination that confirmed the diagnosis of a cardiac fibroma. The patient had a good postoperative recovery and was discharged on sixth postoperative day.

Keywords: Cardiac Tumor; Fibroma; Myxomas

Introduction

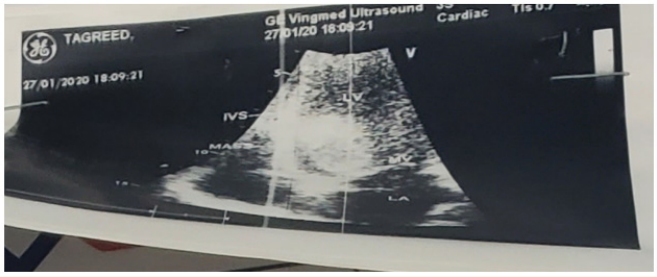
Cardiac fibroma is a rare benign primary tumor of the heart, which has been reported as the second most common benign cardiac tumor following rhabdomyoma in the pediatric population [1]. Fibroma accounts for between 12 and 16% of primary cardiac tumors in children [2]. Signs and symptoms are nonspecific, including arrhythmias, dyspnea, cyanosis, chest-pain and sudden mortality [3]. However, a number of patients with cardiac fibroma are asymptomatic [4]. The prevalence of cardiac fibroma is rare in the adult population [5]. Cardiac fibromas generally are surgically resected, and patients with large tumors that cause heart failure require heart transplantation [2]. Asymptomatic tumors require a long-term follow-up or surgical resection as a preventive measure to avoid complications [6]. Echocardiography is the initial diagnostic modality for evaluating cardiac fibroma, and computed tomography (CT) or magnetic resonance imaging (MRI) can be as supplementary diagnostic techniques. The present case report describes an adult with cardiac fibroma arising from the left ventricle.

Case Report

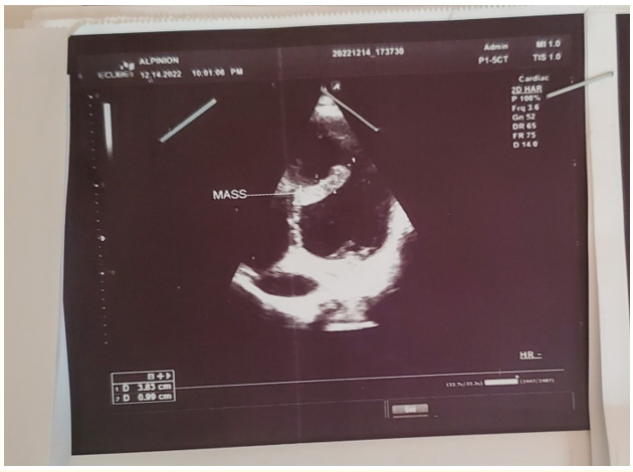
A Young female patient 25 years old presented with palpitation with pre-syncope for 6 months. She was Admitted in in January 2023 at Military Cardiac Center, Sana'a. Yemen, patient examined and all investigation sent ECG showed Sinus rhythm, Echo Showed Elongated mobile Mass attached to the mid part of the IVS swinging in LV, protruded through Left Ventricular Outflow Tract (Photo A-D) creating transient gradient estimated by 110 mmhg, this mass

hits aortic valve leaflets lead to mild regurgitation grade I-II/IV The Mass measured by 29 x 22 mm in diameter (Myxomas can't be excluded).

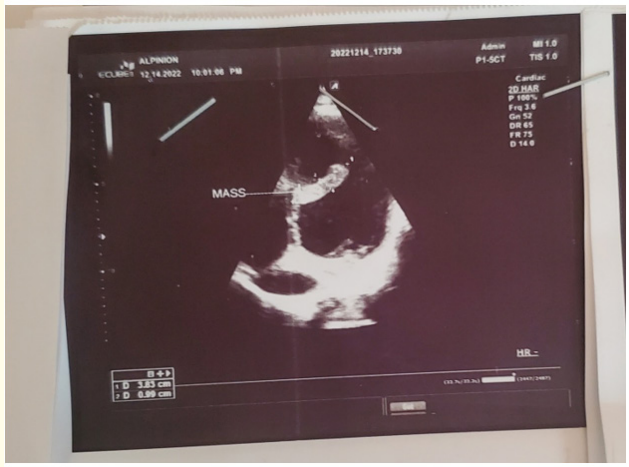
A

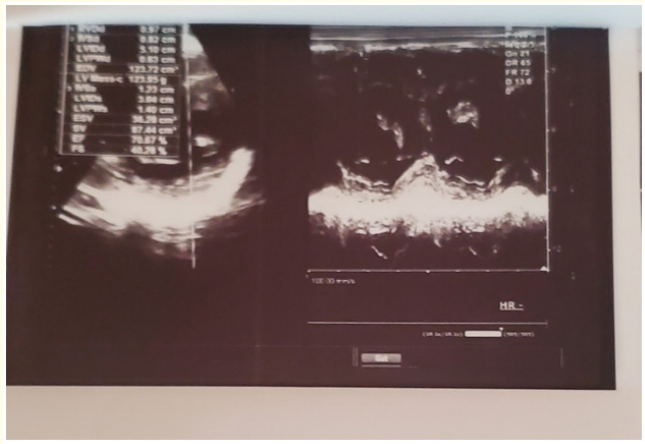


B

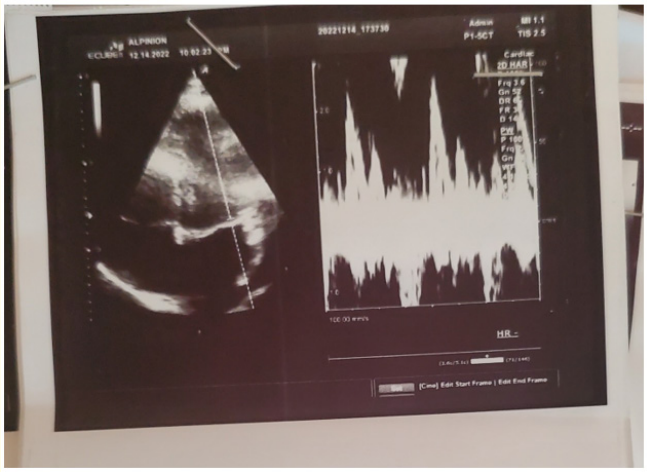


C





D



Photos A-D

CT Showed LV mass 26 x 20mm prolapsed to the aortic sinus of valsalva and the aortic root seem adherent to the Left Ventricle wall. After IV contrast these lesion appear hypodense mass with minimal enhancement. (Figure 1). The patient underwent surgical excision of the tumor under standard cardiopulmonary bypass, and median sternotomy was performed. Under cardioplegic arrest and aortic cross clamping, the Ascending Aorta was opened by oblique aortotomy, The tumor mass was in the LVOT, fully resected, including small segment of the lateral myocardial wall. (Photo E-F) tissue Sample was sent outside our Center for Histopathological examination that confirmed the mass to be a fibroma. The patient had a good postoperative recovery, echo wad done 4th day opst operatively showed no mass, no gradient in the LVOT, and was

discharged on day sixth post-surgery. Follow-up echocardiography was performed every 2 and half months post surgery, there is no evidence of recurrence and the patient remains asymptomatic.

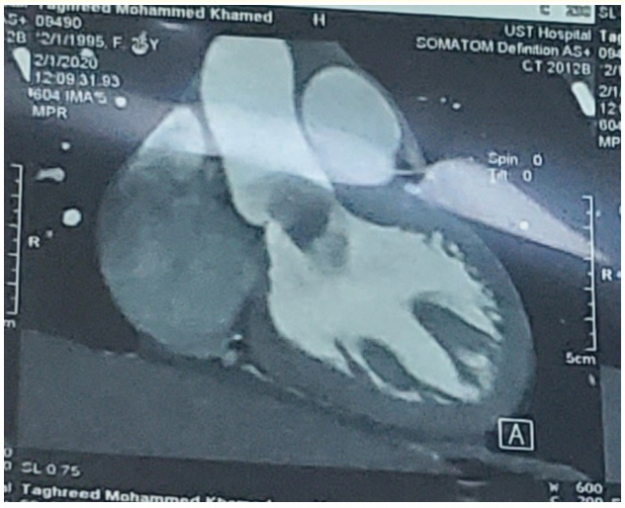
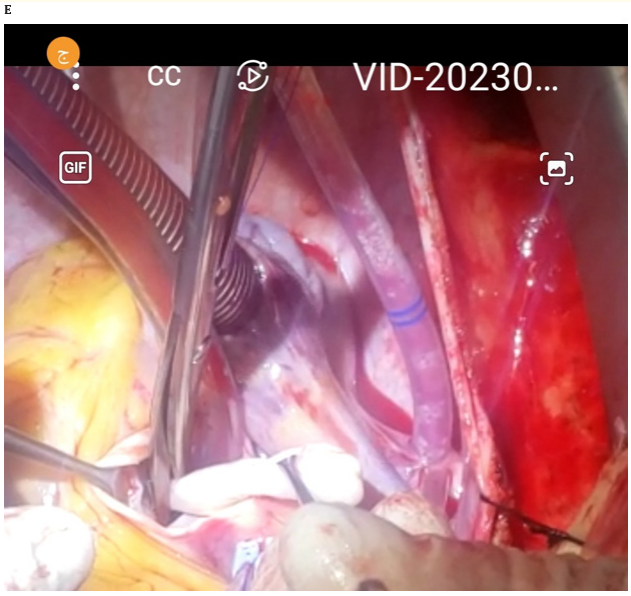


Figure 1



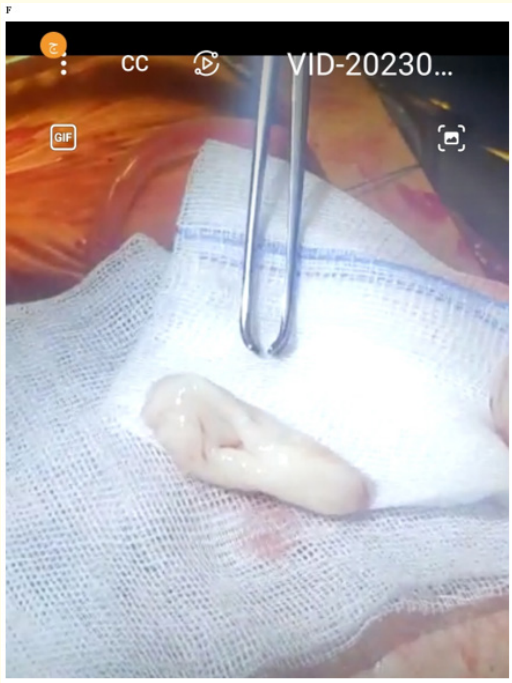


Photo E,F

Discussion

Cardiac tumors may be primary or secondary tumors [4]. Primary cardiac tumors are rare, with a prevalence of <0.03% according to postmortem studies [1]. Cardiac fibromas arise from heart fibroblasts, and these tumors are mainly located in the ventricles or interventricular septum [4]. Cardiac fibromas generally have no capsules. Fibromas are able to interdigitate with ventricular muscle at the tumor border and replace functioning muscle mass, which may result in intractable congestive heart failure [2,6]. Clinical symptoms and signs of cardiac tumors vary depending on tumor location and size [7]. Cardiac tumors may be associated with certain symptoms, including chest pain, cardiomegaly, arrhythmias and even sudden mortality. In some cases, cardiac tumors may be asymptomatic [1,8]. Echocardiography is non-invasive, fast and does not involve the use of radiation. It is generally the initial diagnostic modality for evaluating cardiac fibroma. Supplementary diagnostic techniques include computed tomography (CT) or MRI. CT and MRI can provide the location of the tumor, as well as identifying its surrounding structures and hemodynamic effects.

In addition, MRI can provide additional functional data. Therefore, cardiac MRI is the modality of choice for further evaluation of cardiac fibroma [1,4].

In the present study, the echo and ct of chest showed a regular solid, mobile mass, which was hypodense which suggested as lLV tumor (fibrosis vs myxomas). Diagnosis was confirmed by histopathological evaluation of the specimen following surgical resection. Cardiac tumors, that are symptomatic, are treated by surgical resection [3], and if surgical resection is not possible, heart transplantation is required [1]. The type of surgical intervention (a total or subtotal resection) depends on the location of the tumor [1] with total and subtotal resection reported exhibit good outcomes [10]. Asymptomatic tumors require a long-term follow-up or surgical resection as a preventive measure to avoid complications [6]. In the present study, the patient presented with symptoms, and therefore surgery was required. Following operation, the patient had a good recovery, and echocardiography, which was performed once monthly, following surgical resection, indicated no recurrence. In conclusion, cardiac fibroma is very rare in adults. Echocardiogram, CT and can provide valuable findings. Surgical excision is a reliable and effective method for treatment.

Bibliography

1. Ünsal H and Ekici E. "Conservative management of a left ventricle cardiac fibroma in an asymptomatic child patient". *Turk Kardiyoloji Dernegi Arsivi* 43 (2015): 481-483.

2. Uzun O., *et al*. "Cardiac tumours in children". *Orphanet Journal of Rare Diseases* 2 (2007): 11.

3. Burke A and Tavora F. "The 2015 WHO classification of tumors of the heart and pericardium". *Journal of Thoracic Oncology* 11 (2016): 441-452.

4. Tao TY., *et al*. "Pediatric cardiac tumors: Clinical and imaging features". *Radiographics* 34 (2014): 1031-1046.

5. Cho SH., *et al*. "Primary cardiac fibroma in an adult". *Case Report on Cardiology* (2015): 713702.

6. Stiller B., *et al*. "Primary cardiac tumours: When is surgery necessary?" *European Journal of Cardiothoracic Surgery* 20 (2001): 1002-1006.

7. Bruce CJ. "Cardiac tumours: Diagnosis and management". *Heart* 97 (2011): 151-160.

8. Burke AP., *et al*. "Cardiac fibroma: Clinicopathologic correlates and surgical treatment". *Journal of Thoracic Cardiovascular Surgery* 108 (1994): 862-870.

9. Eric S., *et al*. "Inter-ventricular septal cardiac fibroma in an adult: MR and MDCT features with pathologic correlation". *European Journal of Radiology Extra* 67 (2008): e103-e106.

10. Cho JM., *et al*. "Surgical resection of ventricular cardiac fibromas: Early and late results". *Annals of Thoracic Surgery* 76 (2003): 1929-1934.