Scholars Journal of Medical Case Reports **ISSN 2347-6559 (Online)**
Sch J Med Case Rep 2015; 3(8):717-719 **ISSN 2347-9507 (Print)**

(An International Publisher for Academic and Scientific Resources) DOI: 10.36347/sjmcr.2015.v03i08.021

Primary cardiac leiomyoma: a case report

El Haouati R*, Boukaidi Y, Drighi S, Boumzebra D.
Mohammed VI University Hospital, Marrakech, Morocco
Ibn rochd University Hospital, Casablanca, Morocco

***Corresponding author**
El Haouati R
Email: elhaouati_rachid@yahoo.com

Abstract: We report a case of primary cardiac leiomyoma in a five years old female revealed by poorly tolerated ventricular tachycardia reduced with external cardio version. Cardiac Ultrasonography found an echogenic mass in the lateral wall of the left ventricle (LV) without causing any obstruction. Cardiac magnetic resonance imaging (MRI) completed the anatomic study. Total surgical excision of the tumor was performed under cardiopulmonary bypass. Histologic examination showed a cardiac leiomyoma. The mid-term follow-up was uneventful.
Keywords: cardiac tumor, benign tumor, leiomyoma, ventricular tachycardia, surgery, child.

INTRODUCTION

Primary cardiac tumors are rare with an incidence of 0.03 to 0.3% [1]. The majorities are benign, and the most frequent histological types are Rhabdomyoma, fibroma and teratoma [1, 2]. Primary cardiac leiomyomas are exceptional since it was reported only in 2 cases [2, 3]. We report a case of a 5 years old female with a primary cardiac leiomyoma revealed by ventricular tachycardia.

CASE REPORT

A five year old female with a history of episodes of dizziness, palpitations and syncope five months prior , was admitted to emergency room for poorly tolerated ventricular tachycardia (VT), reduced with external cardio version . On physical examination she had normal vital signs and no abnormal clinical findings. Electrocardiogram showed negative T waves in anterior leads. Chest radiograph showed a normal heart shadow with cardiothoracic ratio at 0.5 and no calcifications over the cardiac silhouette. Cardiac Ultrasonography found a 33 X 26 mm echogenic mass. It is located in the apical segment of the anterolateral wall of the left ventricle (LV), bulging in its apex without causing any obstruction.

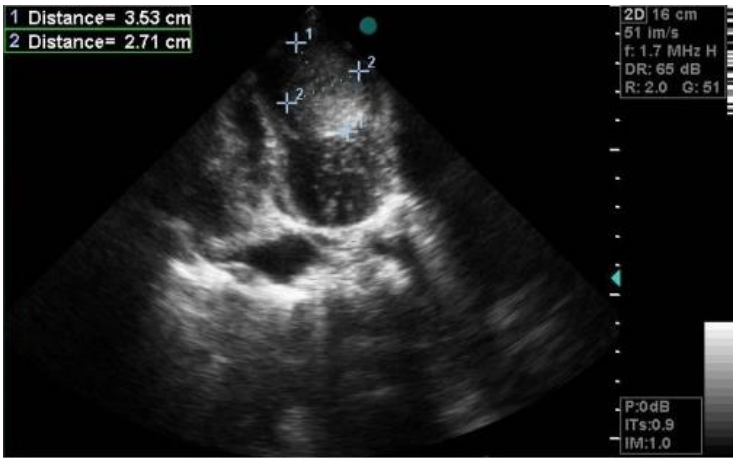

Fig-1: preoperative echocardiography showing an echogenic mass in the LV apex.

Cardiac MRI shows a tissular mass embedded in the apical segment of the LV with low signal intensity. Contrast-enhanced images of the tumor show lobulated mass with well defined limits and delayed intensive enhancement.

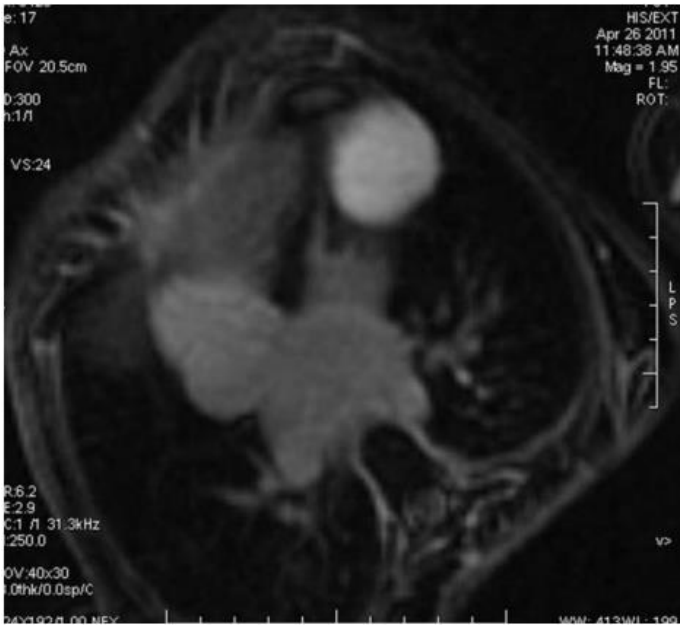

Fig-2: preoperative cardiac MRI. Note the well defined borders of the tumor.

Surgical resection of the tumor was performed under moderate hypothermia cardiopulmonary bypass with antegrade warm blood cardioplegia. Epicardial incision was performed over the tumor site and dissection went through a good cleavage layer. Total tumor removal was performed through normal muscle margins. The LV lumen was partially opened during this removal allowing checking the integrity of the papillary muscles. The LV defect was then closed using 4/0 polypropylene U-stitches. The tumor was an encapsulated nodular white mass measuring 4.5 centimeters diameter and weighting 20 grams (Figure 2.D). Histological examination (Figure 4) confirmed that the cardiac tumor was a primary leiomyoma.

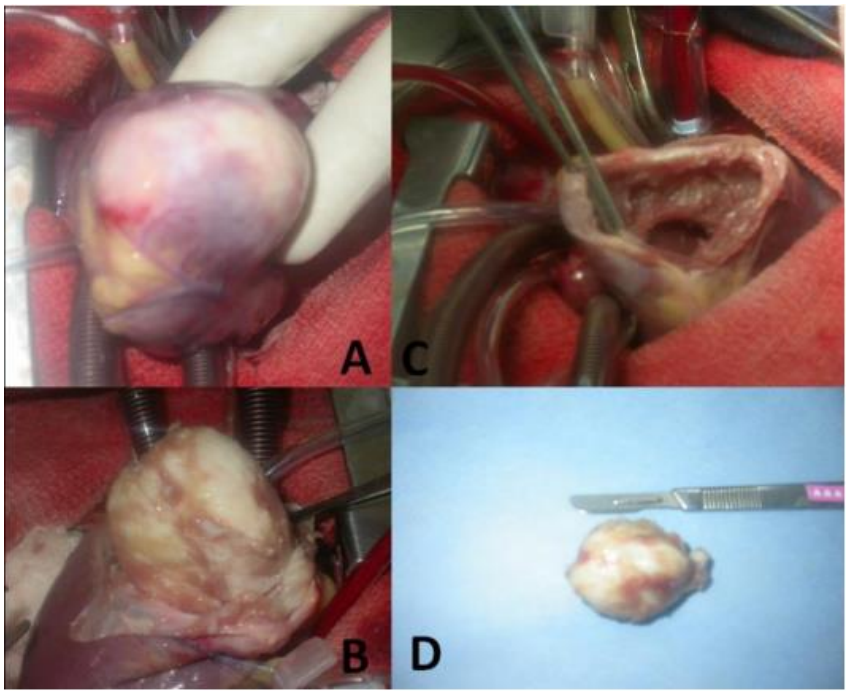

Fig-3: Preoperative view of the LV tumor before (A) and after resection (B), and the residual LV cavity (C).

During the post-operative course, the patient was weaned from mechanical ventilation at H 2 after admission to cardiac ICU. Electrocardiogram showed an ST-segment elevation in the anterior and lateral leads that remained unchangeable. Echocardiogram performed at postoperative day 2 revealed septoapical hyperkinesias, no intracardiac thrombi and no mitral regurgitation. Hyperkinesias improved at day 9 postoperatively. At discharge, she was under Acenocoumarol, Amiodaron, and Captopril and iron

supplementation. The girl stayed free from any symptoms after a period of 14 months of follow-up.

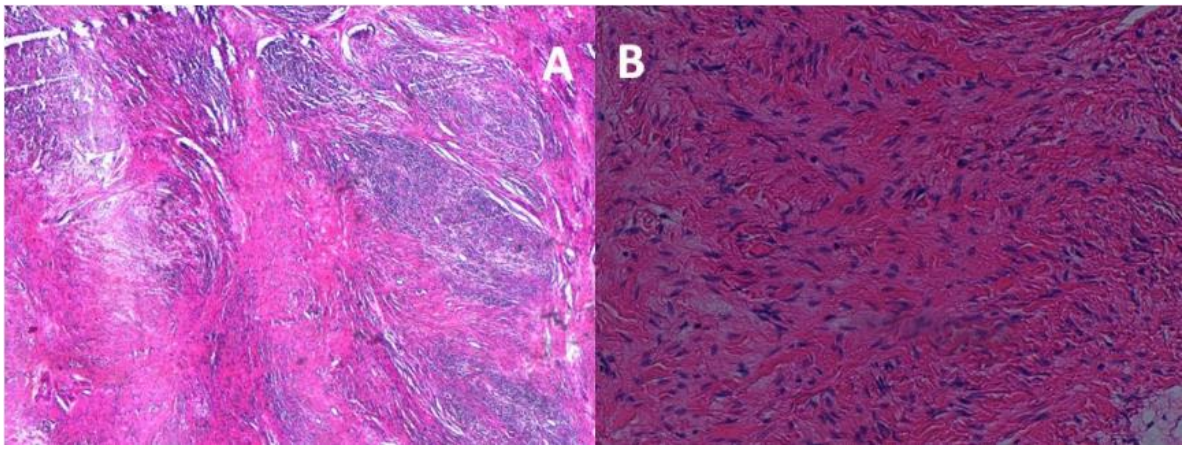

Fig-4: histological view of the leiomyoma (A. Hematoxylin-Eosin, X20. B. Hematoxylin-Eosin, X40).

DISCUSSION

Leiomyoma of the heart is uncommon. Three different clinical settings for cardiac leiomyomas have been reported in the literature: intravenous with intracardiac extension of pelvic leiomyoma, benign metastasizing leiomyoma, and primary cardiac leiomyoma [4,5].

The last entity is extremely rare since we found only two reported cases. The clinical presentation of the primary cardiac leiomyoma is heterogeneous; Qin reported a similar case in a 13 years old female who was asymptomatic despite the large size of tumor [3]. Melo described a case of 9 years old boy who had a leiomyoma in the ventricular septum obstructing the right ventricle outflow tract [2]. Our patient presented a malignant ventricular tachycardia. The common feature of the three cases is the large size of the tumor.

Clinically significant arrhythmias occurred in 24% of pediatric patients with cardiac tumors and VTs are the most common type [1, 6]. The mechanism for VT in these cases is the creation of re-entry pathway, and electrical cardio version succeeded when tried. Ventricular arrhythmias refractory to antiarrhythmic therapy are an indication for surgical resection of the tumor [6].

Surgical excision of cardiac tumors associated to VT in children is an effective and safe therapy; Miyake reported a study of 18 patients operated for VT and cardiac tumors, 17 cases had total resolution [1].

CONCLUSION

Leiomyoma is an extremely rare primitive cardiac benign tumor. Presenting symptoms in this case were life-threatening and warranted surgical excision that was successful. Although the surgery is often curative, a close follow-up of this patient is recommended.

REFERENCES

1. Miyake CY, Del Nido PJ, Alexander ME, Cecchin F, Berul CI, Triedman JK, *et al;* Cardiac tumors and associated arrhythmias in pediatric patients, with observations on surgical therapy for ventricular tachycardia. Journal of the American College of Cardiology, 2011; 58(18):1903-1909.
2. Melo IS, Belo F, Gouveia R, Anjos R; Primary cardiac leiomyoma of the ventricular septum: a rare form of pediatric intracardiac tumor. Pediatric cardiology, 2012; 33(4):649-651.
3. Qin C, Chen L, Xiao YB, Chen BC; Giant primary leiomyoma of the right ventricle. Journal of cardiac surgery, 2010; 25(2):169-171.
4. Gan HL, Zhang JQ, Zhou QW, Kong; Surgical treatment of intracardiac leiomyomatosis. The Journal of thoracic and cardiovascular surgery, 2011; 142(4):823-828.
5. Cho KR, Woodruff JD, Epstein JI; leiomyomatosis of the Uterus with multiple extrauterine smooth muscle tumors: a case report suggesting multifocal origin. Hum Pathol, 1989; 20: 80–83.
6. Myers KA; Benign cardiac tumors, malignant arrhythmias. Can J Cardiol, 2010; 26(2): 58-61.