

Calcified Mobile Mass in Right Ventricle – Case Report

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ABSTRACT

Primary cardiac tumors are unusual entities. About 70% of these are benign and, of these, cardiac myxoma accounts for 50%. Primary cardiac tumors may present at almost any age, but they most commonly appear in the third to sixth decade of the patient's life. Fibromas are benign neoplasm comprised of typical spindle shape fibroblast cells. Fibroblasts are present in various tissues but it is surprising that this neoplasm is rare and confined to few organs. Rarely, it is found as a primary tumor of the heart. Here we are presenting a case of right ventricular fibroma which was diagnosed incidentally during coronary angiogram.

Key Words: Cardiac Tumor, 2D Echocardiography, Coronary angiography, Cardiac MRI, Fibroma

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INTRODUCTION

Fibromas are benign neoplasms comprised primarily of typical spindle-shaped fibroblasts. Since fibroblasts may arise from many types of mesenchymal cells, it is surprising that this neoplasm is uncommon and localized to only a few areas of the body. Rarely is it found as a primary tumor of the heart. Cardiac fibromas are extremely rare in adults, may be associated with

arrhythmias and heart failure, and require surveillance imaging due to the potential for recurrence. Here, we are presenting a case of right ventricular fibroma which was diagnosed incidentally during coronary angiogram.

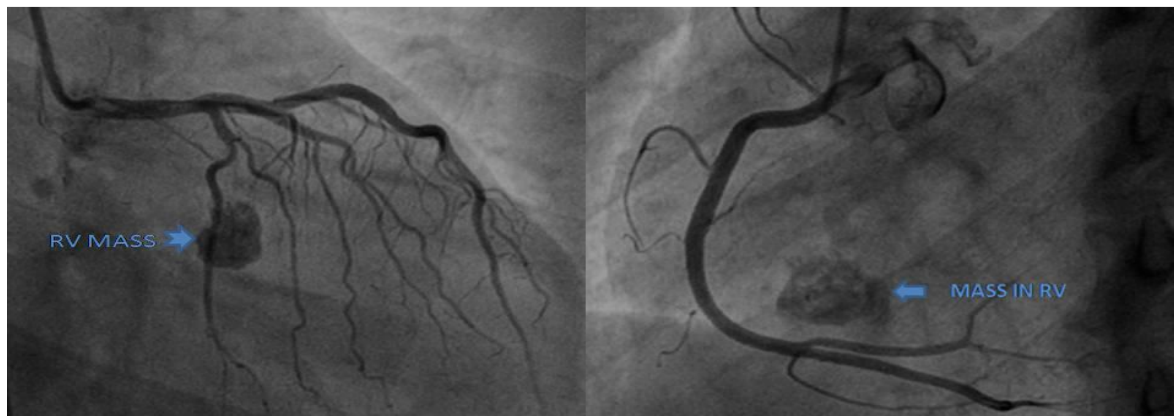
CASE PRESENTATION:

A 50 year old male presented in casualty with the chief complaint of retrosternal chest pain , squeezing type in character , radiating

to left arm, associated with sweating, 12 leads electrocardiogram showed deep T wave inversion in leads V1-V6. His cardiac enzymes were normal. He diagnosed as a case of unstable angina and proceeded for

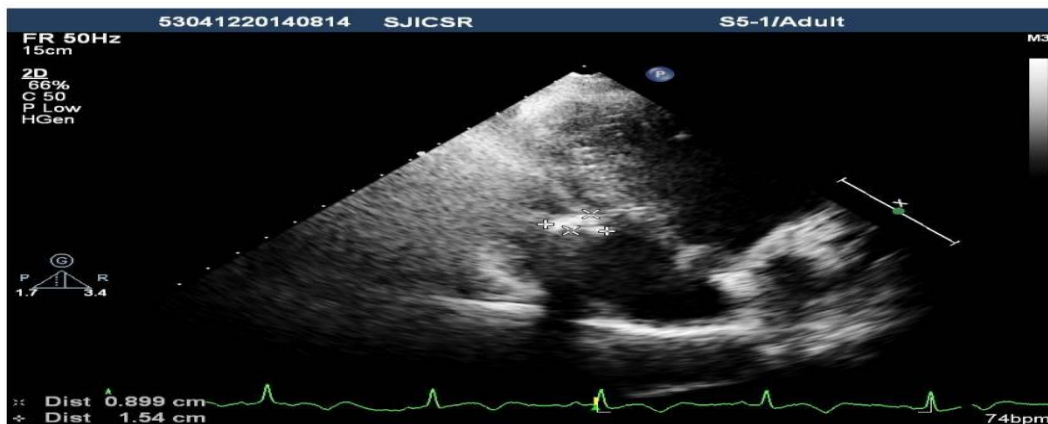
coronary angiography. During angiogram coronary arteries were found to be normal. Angiogram also showed a moving mass in the right ventricle and there was no feeding artery to the mass (Figure1)

Figure 1: Normal left and right coronaries with mass in right ventricle



2D echocardiography showed hyperecholucent mobile mass in the right ventricle arising from intraventricular septum (Figure 2), causing no obstruction to the inflow and outflow.

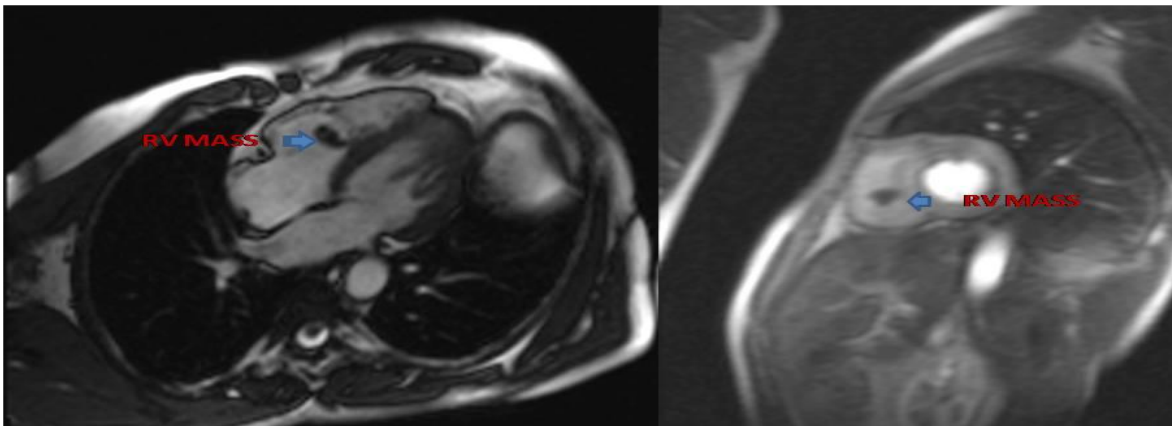
Figure: 2- showing hyperechogenic mass arising from interventricular septum



Cardiac MRI was done subsequently which was showing iso to hypo intense mass lesion within right ventricle arising from the right ventricular papillary muscle of intraventricular septum suggestive of

densely calcified fibroma with no obstruction in cavity (Figure 3). Patient was advised to go for surgical resection but he refused and presently he is on regular follow up.

Figure 3-CMR- showing right ventricle mass attached to intraventricular septum



DISCUSSION: Cardiac fibroma is the second most common primary cardiac neoplasm in infants and children after rhabdomyoma^[1]. About 90 percent of the reported cases occur in children, although fibromas can present in any age group ranging from a few days of age to 83 years. Only 15% of all cardiac fibromas are diagnosed in adolescents and adults^[2]. Clinically, patient can be presented with congestive heart failure, heart murmurs, arrhythmias, atypical chest pain and syncope. However, up to one third of

patients with cardiac fibroma can remain asymptomatic^[3]. The common location of the tumor is in the left ventricular septum or the left ventricular free wall with occurrence in the right ventricle or the atria seen in less than 10 percent of cases. The differential diagnosis, especially in the more cellular cases, includes low-grade fibrosarcoma and inflammatory myofibroblastic tumors. A variety of diagnostic techniques have been used including chest X-rays, MRI scans, echocardiography, and computed tomography scans to diagnose this tumor^[5].

Echocardiography has shown more precise diagnosis of cardiac tumor^[4]. On MRI, they are homogeneous and hypointense on T2 weighted images and isointense relative to muscle on T1 weighted images^[5]. They demonstrate little or no contrast material enhancement pathologically in the adult population. Cardiac fibromas are acellular masses composed primarily of collagen^[6]. The cells of cardiac fibromas appear spindled, monomorphic. Calcification can be demonstrated in approximately 50% of these lesions and may be multifocal^[2]. Complete surgical resection in symptomatic cases is the treatment of choice, but asymptomatic cases can be followed up periodically. With the improved diagnostic techniques of echocardiography and subsequently cardiac MRI, the frequency of identification of these tumors increased dramatically.

CONCLUSION

Most of the cardiac tumor patients are asymptomatic. It is always better to use multimodality imaging approach towards cardiac mass. And finally Cardiac magnetic resonance imaging (MRI) is very sensitive and specific test to diagnosed cardiac mass.

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