



Cardiac hemangioma caused ventricular arrhythmia: A rare case and literature review

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Abstract

Cardiac hemangioma is a rare primary cardiac tumor. We reported the case of patient with left ventricular hemangioma who was referred to our hospital complaining of palpitation for one week. 24 h Holter revealed high episode of ventricular arrhythmia. Echocardiography showed a mass at left ventricle, which was also confirmed by MRI. The mass was successfully resected and postoperative pathology confirmed cardiac capillary hemangioma. The patient recovered well with no cardiac arrhythmia after surgery over 12 months of follow-up.

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Keywords:

Primary cardiac tumors; Cardiac hemangioma

Introduction

Hemangioma of the heart presenting as a primary cardiac tumor is extremely rare, accounting for only 2.8%. Hemangioma can arise from any heart chamber. Most patients with cardiac hemangioma have no symptoms, usually found in autopsy or health examination. Herein, we report a cardiac hemangioma at the left ventricle in a symptomatic patient with high episode of ventricular arrhythmia.

Case report

The male patient, 42 years old, referred to our hospital with the chief complaint of palpitation for one week. Physical examination of heart showed no murmur while results of chest X-ray and coronary artery CTA were unremarkable. 24 h Holter demonstrated high episode of ventricular premature contraction, ventricular bigeminy and premature ventricular trigeminy (Fig. 1). Echocardiography showed an oval mass with a stalk arising from the lateral wall of the left ventricular (Fig. 2). Further cardiac MRI indicated non-enhanced oval mass in the lateral wall of left ventricle (Fig. 3). The patient received operation of cardiac tumor resection. A 15 × 10 × 10 mm oval tumor with pedicle could be seen at the lateral wall of the left ventricular with smooth edge. Postoperative histopathologic

diagnosis was cardiac capillary hemangioma (Fig. 4). 24 h Holter showed sinus rhythm postoperatively and he was discharged with close follow-up. He remains symptom free over 12 months of follow-up.

Discussion

Primary cardiac tumors are rare, with an incidence of only 0.0017% to 0.27% in the autopsy series. 75% of primary cardiac tumors are benign, of which myxomas accounting for 50% and hemangiomas accounting for only 2.8% [1]. The disease can occur at any age with no significant difference in prevalence of men and women, and with no obvious family history. Cardiac hemangioma can grow at any position of the heart including endocardium, myocardium, epicardium and pericardium. Hemangioma at left heart accounts for 39.5%, of which 20.2% is left ventricular and 1.0% rare is the aortic valve. Hemangioma at right heart accounts for 44.1%, of which the most common is the right atrium, accounting for 26.2% [2]. Several rare cases have also been reported, such as atrioventricular node, coronary sinus and aortic sinus, etc. [3]. Cardiac hemangioma often demonstrates single and sustainable growth, which can also be fixed or naturally contracted.

Most cardiac hemangiomas range between 20 and 50 mm in size. Val-Bernal et al. reported that the smallest cardiac hemangioma was only 6 mm [4]. Until now, the largest cardiac hemangioma reported was 140 mm [5]. Cardiac hemangioma is the benign proliferation of vascular endothelial cell, which can be divided into three subtypes

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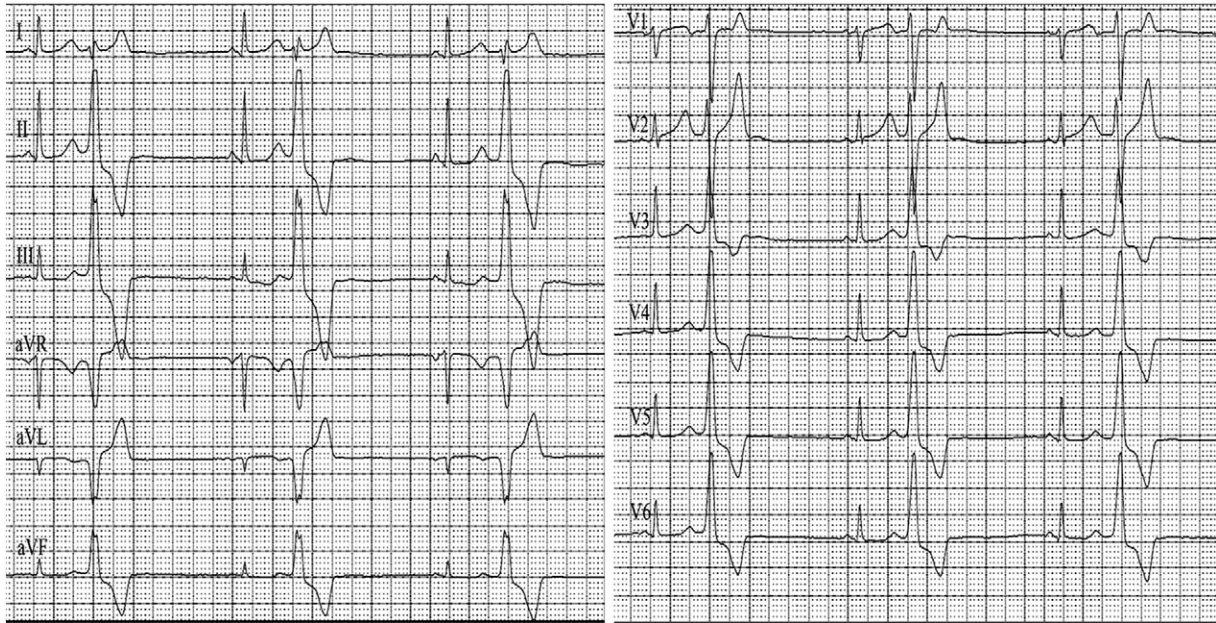


Fig. 1. Holter showed ventricular bigeminy on admission.

according to pathology: (i) cavernous hemangioma, (ii) capillary hemangioma, (iii) hemangioma racemose. Cavernous hemangioma and capillary hemangioma are common and can also be presented in one same tumor. This patient was capillary hemangioma.

Patients with cardiac hemangiomas usually have no clinical symptoms. The clinical manifestations of hemangioma patients depend on hemangioma location, size, growth speed, gender, age and other factors. Common symptoms include shortness of breath, heart palpitations, coronary

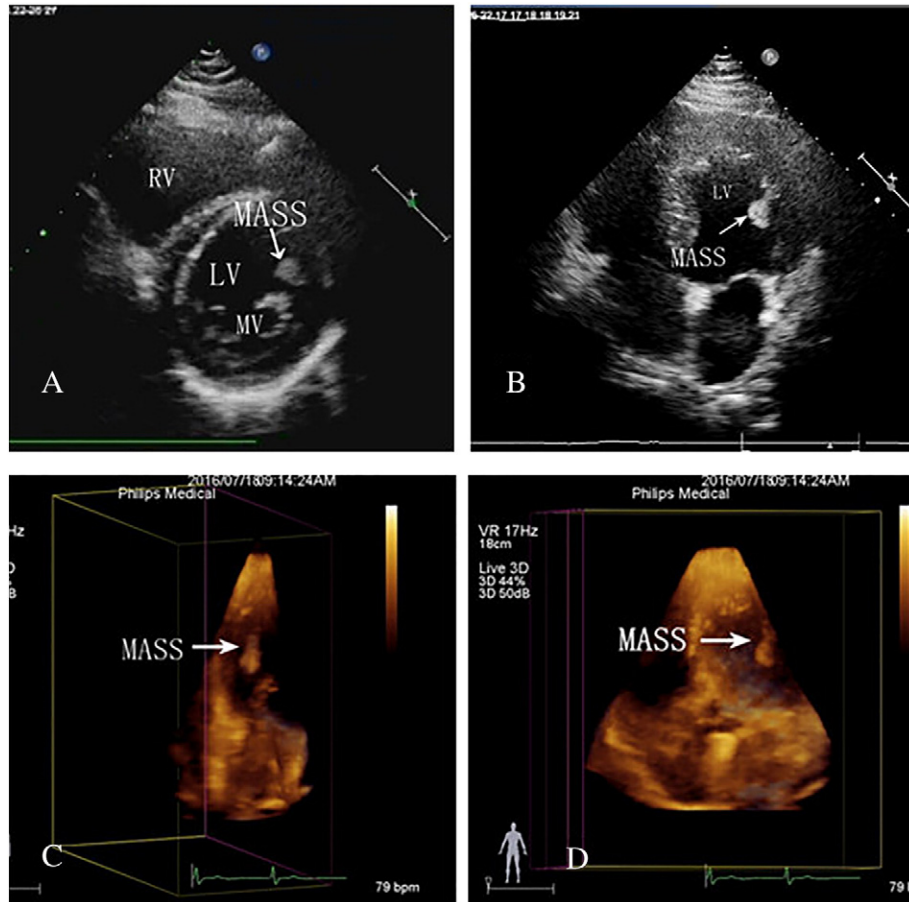


Fig. 2. A, B: Transthoracic two-dimensional echocardiography showed the mass in the left ventricle; C, D: Transthoracic three-dimensional echocardiography showed the tumor connected to the lateral wall of left ventricular. LV: left ventricular RV: right ventricular MV: mitral valve.

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