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Case Report

Asymptomatic left ventricular hemangioma

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ABSTRACT

Cardiac hemangiomas are very rare benign neoplasms that are usually asymptomatic. Although there are often found incidentally during echocardiography, other imaging modalities such as computed tomography, magnetic resonance imaging, and coronary angiography are needed to establish a diagnosis. Surgical excision is therefore recommended to confirm the diagnosis and avoid potential complications. We report a case of asymptomatic cardiac hemangioma that was discovered incidentally during echocardiography.

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Introduction

Cardiac hemangiomas are very uncommon benign primary tumors that are usually detected during routine echocardiography. However, they can potentially cause complications such as arrhythmia, dyspnea, and sudden death. Surgical treatment is recommended to confirm the diagnosis and avoid serious complications.

Case report

A 42-year-old man who underwent echocardiography for a medical checkup was referred to our department for evaluation of a left ventricular mass. His medical history was

unremarkable. There were no complaints of fever, weight loss, or dyspnea. On admission, his vital signs were as follows: temperature of 36.5°C and blood pressure of 120/80 mm Hg. An electrocardiogram showed normal sinus rhythm. Chest X-ray revealed no active lung lesions. Transthoracic echocardiography showed a mobile, smooth, oval, pedunculated mass originating from the left ventricular lateral wall. The mass measured 1.34 × 1.9 cm (Fig. 1). Chest computed tomography showed that it was attached to the interventricular septum. The mass was focally enhanced by the contrast material (Fig. 2). The patient subsequently underwent surgery. The excised mass was polypoid with smooth outer surface, and histological examination confirmed the diagnosis of hemangioma (Fig. 3). The patient had no postoperative complication and was followed for 3 years after surgery.

Competing Interests: The authors declare no conflict of interest.

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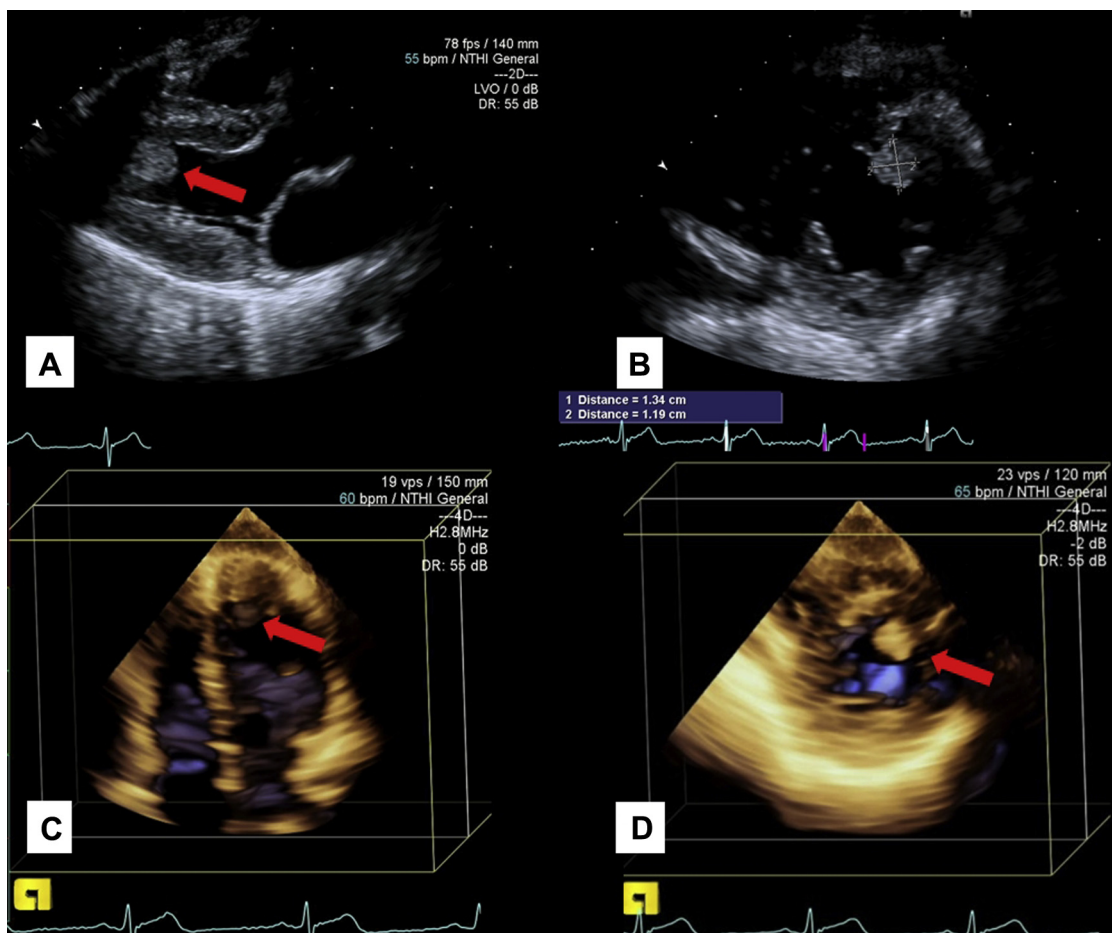


Fig. 1 – Transthoracic echocardiography demonstrates an oval, homogeneous, mobile mass originated from the lower midpart of the interventricular wall. Parasternal long (A), short (B) axis view, 3-dimensional echocardiography (C and D).

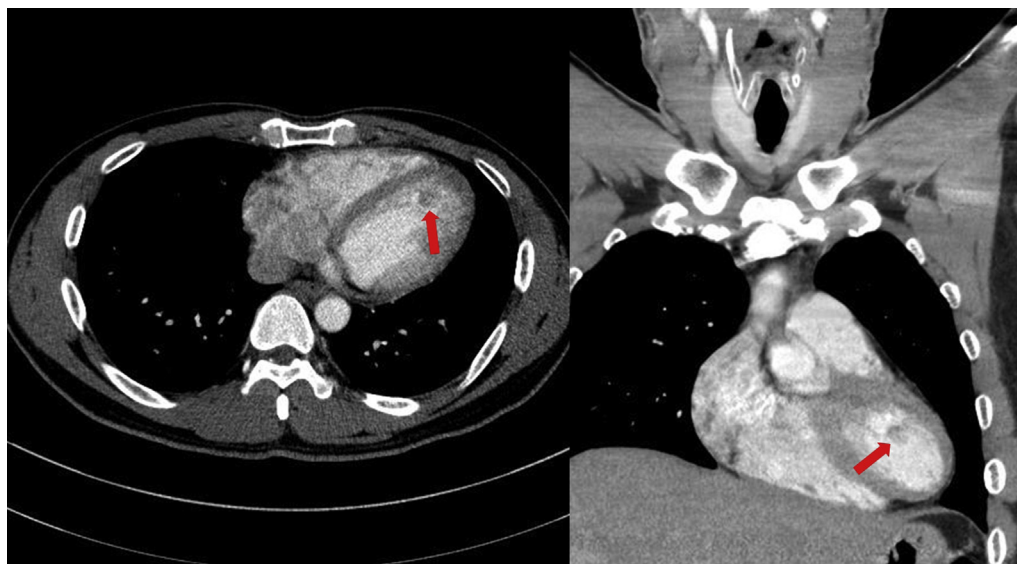


Fig. 2 – Chest CT shows the small, focal-enhanced mass attached to the left interventricular septum in multiple views (arrows). CT, computed tomography.

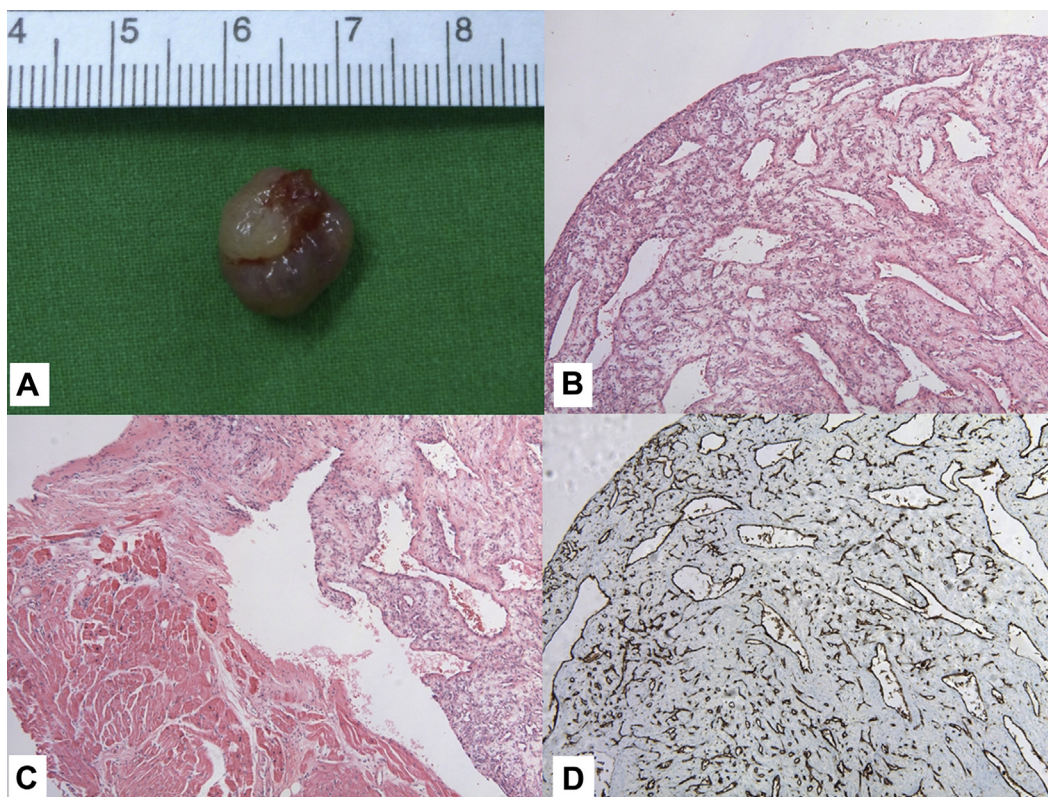


Fig. 3 – (A) On gross examination, the mass appears polypoid, encapsulated, well-defined. (B) The mass shows multiple dilated thin-walled vessels. Within the intervening stroma, proliferation of capillary-sized vessels is seen ($\times 100$). (C) A piece of myocardium is attached to the mass, indicating that the cardiac mass originated in the muscular part of the heart ($\times 100$). (D) Immunohistochemistry for CD31 is positive in vascular endothelial cells ($\times 100$).

Discussion

Cardiac hemangiomas are rare cardiac neoplasms in adults, comprising approximately 2.8% of primary cardiac tumors [1]. They are most commonly detected in the fifth decade of life, and while the natural history of hemangiomas is variable, most are stable [2]. They are usually asymptomatic and often found incidentally during echocardiography. Hemangiomas can be located in any of the heart chambers, the pericardium, endocardium, or the myocardium [3]. Clinical symptoms depend on the tumor's location and size [4]. They may sometimes present with arrhythmia, sudden death, complete heart block, dyspnea, congestive heart failure, or pericardial effusion and tamponade [5,6]. Echocardiography is a useful tool for the diagnosis intracardiac masses because of relatively low cost, noninvasiveness, and ability to image in real time [7]. Computed tomography and magnetic resonance imaging are also used to evaluate the tumor invasiveness, size, location, and extracardiac extent [8,9]. Coronary angiography is useful for revealing arteries that feed the tumor but cannot always detect the complete supply of tumor vessels [10]. The differential diagnosis for intracardiac masses includes myxoma, thrombus related to atrial fibrillation and myocardial infarction, vegetation, metastatic tumors, and other primary benign or malignant tumors [11]. Various

imaging modalities are needed to establish a hemangioma diagnosis, but imaging alone is insufficient to confirm the presence of hemangioma. Although the management of hemangioma remains controversial, surgical excision is the only definitive method for diagnosis and treatment.

Conclusions

Once a pedunculated and mobile mass in the left ventricle is found, surgical excision is recommended to confirm the hemangioma diagnosis and to provide treatment.

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