Cardiac Hemangioma: A Case Report

Sung-Yong Hong, M.D.¹, Kyung-Taek Park, M.D.¹, Yang-Haeng Lee, M.D.¹, Kwang-Hyun Cho, M.D.¹, Jeong-Sook Seo, M.D.², Il-Yong Han, M.D.¹

Hemangioma of the heart, presenting as a primary cardiac tumor is extremely rare; it accounts for approximately 2% of all primary resected heart tumors. In our patient, the tumor was located in the orifice of the right lower pulmonary vein. Few cases of cardiac hemangiomas have been reported to arise from the left atrial (LA) wall. Left atrial hemangiomas, especially those attached to the LA wall, may be erroneously diagnosed as myxomas. Cardiac hemangioma is a rare disease; furthermore, a tumor arising from the LA wall and misconceived as a myxoma is extremely rare. We removed a mass misdiagnosed as a myxoma; it was pathologically confirmed to be a cardiac capillary hemangioma. Therefore, we report a rare case of a cardiac hemangioma misconceived as a myxoma; the tumor was removed successfully.

Key words: 1. Heart neoplasms  
2. Hemangioma  
3. Myxoma  
4. Left atrium

CASE REPORT

A 74-year-old man presented with mild dyspnea and chest discomfort for 30 months. The symptoms had deteriorated 3 months before his visit to our hospital. Trans-thoracic echocardiographic findings showed a left atrial echogenic mass (2×1.5 cm) (Fig. 1).

A provisional diagnosis of a left atrial (LA) myxoma was made, and the patient was admitted for the surgical excision of the tumor. He was hemodynamically stable, and his laboratory results were within normal limits. Coronary angiography revealed a 50% stenosis on the mid-portion of the left anterior descending artery (LAD). We planned the concomitant operation with mass excision and coronary artery bypass.

Under general anesthesia with supine position, median sternotomy was performed as usual. Conventional cannulation was performed, and the right atrial wall and the interatrial septum were incised. The cardiac mass was totally removed. Further, we anastomosed the left internal thoracic artery to the distal portion of the LAD. The resected mass was oval and was made of a white jelly-like material. We resected the mass including the myocardium, and the LA wall was closed by a prolene suture. The patient was transferred to the general ward the next day.

DISCUSSION

Hemangioma of the heart presenting as a primary cardiac tumor is extremely rare; it accounts for approximately 2.8%
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of all primary resected heart tumors [1]. Its histological sub-
types are as follows: 1) cavernous hemangioma, 2) capillary
hemangioma, and 3) arteriovenous hemangioma or cirrhotic
aneurysm [1]. The cavernous hemangioma is composed of
multiple thin- and/or thick-walled dilated vessels. The capil-
lar hemangioma has lobules of endothelial cells forming
small, capillary-like vessels. The arteriovenous hemangioma
consists of dysplastic thick-walled arterioles, venous-like ves-
sels, and capillaries. In our case, the tumor is a capillary he-
mangioma that shows ill-defined aggregates of closely
packed, thin-walled capillaries filled with blood cells (Fig. 2).

Cardiac hemangioma can occur at any age. Further, tumors
may be located in any heart chamber, the pericardium, the
diaphragm, or the myocardium [2]. Fifty-six cases were re-
viewed by Han et al. [1], and the localization of cardiac he-
mangiomas was the right ventricle in 20 cases (35.7%), the
left ventricle in 19 cases (33.9%), the right atrium in 13 cas-
es (23.2%), the interatrial septum in 6 cases (10.7%), the in-
terventricular septum in 6 cases (10.7%), and the left atrium
in 4 cases (7.1%). Multiple extensive tumors were noted in
17 cases (30.4%). Very few cases of cardiac hemangiomas
have been reported to be arising from the LA wall, mimick-
ing the classic presentation of a myxoma. In our patient, the
tumor was located in the orifice of the right lower pulmonary
vein. However, venous flow obstruction was not observed.

The clinical symptoms depend on the tumor’s location and
size. Some cardiac hemangiomas are asymptomatic and are
discovered during cardiac surgery or upon autopsy. In symp-
tomatic patients, cardiac hemangiomas cause arrhythmia, peri-
cardial effusion, congestive heart failure, right ventricular out-
flow tract obstruction, coronary insufficiency, and sudden
death [3]. Diagnosis can be made by echocardiography, com-
pared tomography (CT), or magnetic resonance imaging
(MRI). CT and MRI help to evaluate the dimensions and the

Fig. 1. Preoperative echocardiographic finding. The mass (1.98×
1.54 cm) is located in the orifice of right lower pulmonary vein,
and showed irregular shape. LA, left atrium; RLPV, right lower
pulmonary vein.

Fig. 2. Pathologic finding of cardiac hemangioma. (A) Myocardium shows ill-defined aggregates of closely packed, thin-walled capillaries fil-
led with blood cells (H&E, ×200). (B) Immunohistochemical staining showed strong immunoreactivity against CD34 on endothelial cells lining
of tangled capillaries.
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invasiveness of the tumor. Coronary angiography is sometimes useful in revealing how the tumor is fed and its characteristic tumor blush [4]. However, we cannot find any feeding vessel or tumor blush in preoperative coronary angiography. In the opinion of a cardiologist, the tumor had a myxoma-like shape and exhibited echogenicity. Therefore, myxoma was strongly suspected in the preoperative evaluation. Atrial hemangiomas, particularly those attached to the LA wall, may be erroneously diagnosed as myxomas. However, there are no myxoma cells or lepidic cells that can be found usually in cardiac myxomas, and cellular areas with numerous capillaries are usually present [1]. The natural history of cardiac hemangioma is unpredictable. Patients with a resectable tumor usually have a good prognosis, but those with an unresectable tumor may have a poor prognosis because of ventricular tachycardia, sudden death, local progression, or systemic dissemination of the malignant tumor [5]. The surgical outcome was generally favorable. A case of recurrence has not been reported thus far. Therefore, we believe that if surgical resection is possible, surgery is the best way to treat cardiac hemangioma.

Cardiac hemangioma is a rare disease; furthermore, a tumor arising from the LA wall and misconceived as a myxoma is extremely rare. We removed the mass misdiagnosed as a myxoma and pathologically confirmed it to be a cardiac capillary hemangioma. In order to share our experience, we report this case, which we successfully treated.

CONFLICT OF INTEREST

No potential conflict of interest relevant to this article was reported.

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