Cardiac Hemangioma: A Benign Tumor with Different Morphological Appearances

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Abstract

Hemangiomas are rare primary cardiac neoplasms with a reported incidence of 2.8% of all neoplastic lesions of the heart and pericardium. So far, fewer than a hundred documented cases have been reported. We present two cases treated and diagnosed as having cardiac hemangiomas. Both of the patients had uneventful postoperative courses.

Key words: Cardiac neoplasm - Cavernous hemangioma- Benign tumor

Introduction

Cardiac hemangiomas, albeit of uncertain origins, are postulated to be either true neoplasms or hamartomatous masses. Primary hemangiomas of the heart were first introduced by McAllister, who reviewed 533 primary cardiac and pericardial neoplasms and cysts. They may either be discovered as incidental lesions during cardiac surgery for other purposes or cause a myriad of symptoms such as effusions, arrhythmias, congestive heart failure, or obstruction of the outflow tract. Dyspnea, palpitation, and atypical chest pain are among other symptoms.

Case presentations

We present two of our cases here. The first one was a 40-year-old woman who was presented with the chief complaint of atypical chest pain of one month duration. No history of coughing, cyanosis, or syncope could be obtained. She had a previous hand operation two years prior to this admission with a diagnosis of glomus tumor. Her general examination, EKG, and chest X-ray were all unremarkable. The laboratory tests were unrevealing except for a mild iron deficiency anemia.

Transthoracic and transesophageal echocardiographic studies divulged a well-defined and encapsulated homogenous mass within the inferior portion of the interatrial septum, deforming the septum as it protruded into the left atrium; the other heart chambers were, however, spared. There was no evidence of pericardial effusion.

The patient was referred for an elective operation that consisted of mass excision, with the impression being an atrial lipoma or hematoma. The right atrium was opened, and a 3.5×3.5cm polypoid mass was found to be adherent to the interatrial septum. The mass was totally excised, and the postoperative course was uneventful. The patient was discharged after a week.

The specimen was round and partially covered by a thin capsule. Histopathologic examination demonstrated a highly vascular tumor with infiltration of sparse chronic inflammatory cells and multiple tortuous vascular channels that were filled with red blood cells. The large cystic spaces were lined with endothelial cells, establishing a diagnosis of cavernous hemangioma (Figure).

Our second case was a 37-year-old man who underwent a mitral valve replacement op-

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eration for mitral stenosis, during which the surgeon came across a creamy and well-defined mass based on the left ventricular endocardium. The mass was excised and sent for histopathological diagnosis. Again, the patient had an uneventful course.

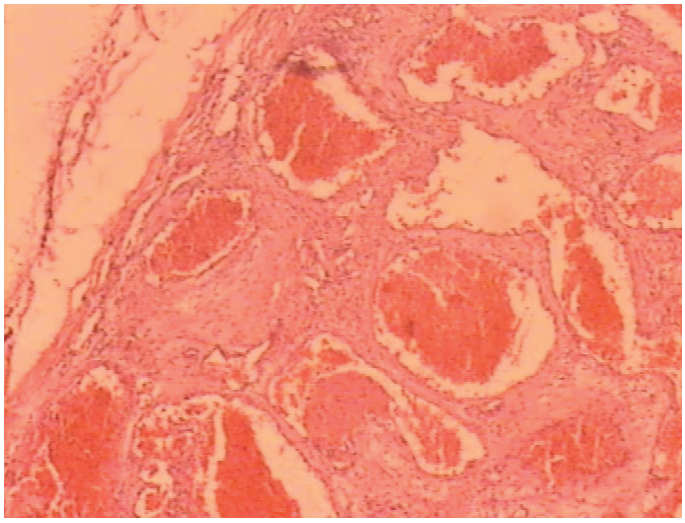

Figure) Enlarged blood-filled vessels in a myxoid background (H&E, X 400)

Discussion

Primary cardiac hemangiomas were first described by McAllister in 1893 in his review of 533 primary cardiac and pericardial neoplasms and cysts. In his study, only 15 (2.8%) cases were designated hemangiomas, comprising a rare group of benign primary cardiac tumors.

The origin of cardiac hemangiomas remains uncertain, but they are believed to be either true neoplasms or hamartomatous lesions (1-6).

There are fewer than 100 cases described in the current cardiac literature (1-4). Not only may they be discovered as incidental lesions during cardiac surgery for other purposes but they also may cause a myriad of symptoms such as effusions, arrhythmias, congestive heart failure, or the outflow tract obstruction. Dyspnea, palpitation, and atypical chest pain are among other symptoms (1-2). Hemangiomas of the heart are usually found in adults with a mild predominance in females, although they may occur at any age (1-2). Most of the tumors occur as isolated and sporadic lesions; nevertheless, they may occasionally be seen in other internal organs, or if large in size, they can be seen in association with the Kasabach-Merritt syndrome, a consumptive coagulopathy (2).

Morphologically, cardiac hemangiomas are composed of benign proliferations of the endothelia and are histologically identical to hemangiomas elsewhere in the body (1). In the heart, however, they are of two basic types: Circumscribed lesions, which are composed of uniform cavernous vascular spaces with a myxoid background, and infiltrating hemangiomas, which are more likely to cause symptoms. Other considerable features in the latter group include areas of capillary hemangiomas and fat infiltrates or areas of intravascular papillary endothelial hyperplasia, which mimic angiosarcomas (2). Therefore, to summarize the histological patterns described, we can name capillary and cavernous hemangiomas, hemangioendotheliomas and intramuscular hemangiomas (1-3).

Hemangiomas can be noted in any part of the heart and pericardium. In a previous study of 56 cases, 36% were found in the right ventricle, 34% in the left ventricle, 23% in the right atrium, and the rest were noted on the interatrial septum and in the left atrium (1-5). Preoperative diagnosis of hemangiomas, nonetheless, occurs in a minority of cases. In our first case, a cardiac tumor, the nature of which was unknown, was diagnosed; and the second one was an incidental finding without any related symptoms.

The natural history of hemangiomas is extremely variable and as a result of this variability, all the resectable lesions should be surgically removed. Surgical excision is the mainstay of therapy, in as much as the nature of the mass in benign. The long-term prognosis is good providing adequate surgical resection. Unfortunately, the unresectable tumors carry a poor prognosis and may lead to sudden death due to arrhythmias (1-2-6).

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