Resection of a Left Atrial Hemangioma
Report of a Case and Overview of the Literature on Resected Cardiac Hemangiomas

We present the case of a 76-year-old woman who presented with dyspnea on exertion. Echocardiography revealed a mass located in the left atrium in proximity to the posterior leaflet of the mitral valve. The mass was successfully excised under cardiopulmonary bypass. Histopathologic analysis showed a capillary hemangioma. Twenty-five months after surgery, the patient remained asymptomatic, and her echocardiogram was normal.

Herein, we discuss the histopathology and the clinical, diagnostic, and therapeutic aspects of hemangiomas. We include a selected overview of the literature on surgically treated patients. (Tex Heart Inst J 2008;35(1):69-72)

If one excludes myxomas, primary benign cardiac tumors are uncommon in the adult. Chief among these are papillary fibroelastomas, lipomas, and hemangiomas.

In this report, we describe a case in which a left atrial hemangioma was successfully resected under cardiopulmonary bypass (CPB).

Case Report

In March 2005, a 76-year-old woman with progressive and disabling dyspnea was visited by her local cardiologist, who found a left atrial mass by transthoracic echocardiography (TTE). The patient was admitted to the hospital for further cardiac evaluation. She had a history of spinal arthrosis, trivial aortic and mitral insufficiency, and hysterectomy.

On admission, physical examination revealed normal heart sounds. No abnormal murmurs were detected. The blood pressure was 130/90 mmHg, the chest radiograph was normal, the electrocardiogram showed sinus rhythm with complete left bundle branch block, and the axillary temperature was 36.6°C. Blood laboratory test results, including those of biochemistry, coagulation, and routine hematology, were within normal limits.

A transesophageal echocardiogram (TEE) showed a 1.7 × 1.4-cm pediculated, noncalcified mass in the left atrial cavity, at a point close to the posterior leaflet of the mitral valve (Fig. 1). Subsequent cardiac and coronary angiography revealed normal coronary arteries, aortic and mitral calcification, mild aortic stenosis, and a left intratrial mass attached to the posterior leaflet of the mitral valve.

In May 2005, the patient underwent surgery. A median sternotomy was performed, and CPB was instituted via aortic and bicaval cannulation. Myocardial protection was achieved by the antegrade administration of cold-blood cardioplegic solution and by topical cooling. After aortic cross-clamping, the left atrium was opened by means of a standard extended incision behind the interatrial groove. A 2 × 2-cm solid, red, round mass was completely removed from the endocardium of the left atrium in proximity to the posterior leaflet of the mitral valve. After 32 minutes of CPB and 18 minutes of cardiac ischemia, the patient was weaned off CPB. The excised specimen was sent for histopathologic diagnosis, at which point it was determined to be a capillary type of hemangioma (Figs. 2 and 3). Her postoperative course was uneventful, and she was discharged from the hospital 10 days after the operation. At a follow-up visit 25 months after surgery, the patient remained asymptomatic. Several postoperative TTE examinations have shown the left atrium to be normal, with no sign of tumor recurrence.
Primary cardiac hemangioma is an infrequent and benign neoplasm, which accounts for about 2% of all primary resected heart tumors. It may be classified as: 1) cavernous hemangioma (multiple, dilated, thin-walled vessels); 2) capillary hemangioma (small vessels resembling capillaries); and 3) arteriovenous hemangioma or cirsoid aneurysm (dysplastic malformation of arteries and veins). Often, some combination of these features is seen in the same patient. Many tumors contain fibrous tissue and fat. The histologic pattern of cardiac hemangioma is similar to that of extracardiac hemangioma. Cardiac hemangioma with epithelioid cells and cardiac hemangioma with papillary endothelial hyperplasia are differentiated subtypes.

Cardiac hemangioma can occur at any age. The tumor may be located in the pericardium, the endocardium, or the myocardium. The clinical symptoms depend on the tumor's location. Some cardiac hemangiomas are asymptomatic and are discovered during heart surgery or upon autopsy. Diagnosis can be made by TTE, TEE, computed tomographic scanning, or magnetic resonance imaging (MRI). As with other benign heart tumors, echocardiography usually provides the necessary information before surgery. Nevertheless, computed tomography and MRI help to evaluate the dimensions and invasiveness of the tumor. Coronary angiography is sometimes useful in revealing how the tumor is fed and its characteristic tumor blush. In many instances, as in the case of our patient, the diagnosis is made only after surgical excision and histologic examination. The natural history of cardiac hemangiomas is unpredictable. Symptoms can arise as a consequence of tumor evolution: compression, infiltration, rupture, bleeding, embolization, growth, or infection, for example.

In 1990, Abad and coworkers reported a case of resected cardiac hemangioma and reviewed 19 additional such cases from the literature. Pigato and colleagues, in 1998, reported their own such case and found 33 others in the literature. From 1999 to the present, we have found more reports of surgically managed cases. Exclusive localization of the tumor in the left atrium is very unusual and was reported by Matsumoto, Lo, Sata, Solum, and Lisy and their associates.

In accordance with other authors, we consider surgical resection to be the best way to treat cardiac tumors.
This method provides histologic classification, maximal or total excision, and improvement of clinical condition.

References


