Cardiac hemangioma of the right atrium

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Received 14 July 2006; accepted after revision 20 August 2006; online publish-ahead-of-print 10 October 2006

Primary cardiac tumors are rare, with an incidence range between 0.001% and 0.030% at autopsy. Recent technical advances have facilitated diagnosis and surgical treatment of such lesions. Patients with a resectable tumor usually have a good prognosis, but patients with an unresectable tumor may have a poor prognosis. This report shows a case of right atrial hemangioma growing like an extracardiac mass, with cardiac tamponade as the only clinical presentation.

KEYWORDS
Cardiac tumor; Echocardiography; Heart failure

Introduction
Cardiac hemangiomas are exceptionally rare with only a 1–2% incidence in all detected benign heart neoplasms.1 Tumors with extracardiac extension are rarely symptomatic and found by chance.2 This report shows a case of right atrial hemangioma growing like an extracardiac mass, with cardiac tamponade as the only clinical presentation.

Case report
A white 30-year-old male was seen at the University Hospital in January 2002 with cough and chest pain for the past 5 days. At physical examination, it was found arterial blood pressure of 100/80 mmHg, heart rate of 120 bpm, mild jugular ingurgitation, and regular cardiac rhythm without murmurs.

Chest radiography showed increased heart size. Electrocardiogram showed a low voltage complex and sinus rhythm. Transthoracic echodoppler cardiogram revealed large pericardial effusion and signs of cardiac tamponade. Closed pericardiocentesis showed bloody effusion without neoplastic cells at cytopathological examination. Biochemical tests were normal. The patient was discharged after clinical improvement. Four months later, he was rehospitalized because of severe dyspnea and reported a 12 kg body weight loss. Echodoppler cardiogram revealed a large mass filling the right atrium, right ventricle and pericardial space, restricting the ventricle filling (Figure 1A). A chest computed tomography (CT) showed a hypodense heterogeneous mass, measuring 13 × 11 × 12 cm, with outer lining well defined by the pericardium (Figure 1B).

Surgical approach was unable to completely remove the tumor. Histological exam showed a benign vascular neoplasia with hyalinized stroma and deposits of hemosiderin, without architectural disarrangement, being defined as a combination of cavernous and capillary types (Figure 2A and B). Interferon therapy was initiated without success. One month later, the patient had sudden cardiac death.

Discussion
Cardiac hemangiomas grow from the benign proliferation of endothelial cells and may occur in any part of the heart, being more common in the right heart chambers.3–6 Histologically they are classified into three types: tumors composed of multiple, dilated, thin walled vessels (cavernous type), smaller capillary-like vessels (capillary type), and dysplastic arteries and veins (arteriovenous type). A combination of cavernous and capillary types are more frequently reported.7

Most cardiac hemangiomas are asymptomatic, discovered incidentally by echocardiography, CT, MRI or at autopsy.1,5 Symptomatic patients present arrhythmias, pericardial effusions, congestive heart failure, right ventricular outflow tract obstruction, embolic episodes, myocardial ischemia, and sudden death. Although echocardiography may provide
the information needed for surgical treatment, cardiac catheterization and MRI are more precise for diagnosis.\textsuperscript{7}

Differential diagnosis of mass lesions in the heart include thrombi, myxoma, lipoma, fibroma, cyst, and other malignant tumors such as angiosarcoma. The outcomes of cardiac hemangioma are unpredictable. Patients with an unresectable tumor may have a poor prognosis because of ventricular tachycardia, sudden death, local progression, or systemic dissemination of the malignant tumor.\textsuperscript{8}

References


