Case report

Lipomatous interatrial septal hypertrophy: an unusual cause of intracardiac mass

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Abstract

Lipomatous hypertrophy of the interatrial septum is an uncommon entity that usually occurs in elderly patients. We report a patient who presented with atrial fibrillation, congestive cardiac failure and a large intracavitary mass in the right atrium on echocardiography. He underwent successful resection of the mass with septal reconstruction. Pathology was consistent with lipomatous hypertrophy of the interatrial septum.

Keywords: Lipomatous; Hypertrophy; Atrial; Septum; Mass

1. Introduction

Lipomatous hypertrophy of the interatrial septum is generally a benign condition characterized by fatty deposition in the septum. It usually remains asymptomatic and presents as an incidental echocardiographic or intraoperative finding. Rarely it can be associated with atrial arrhythmias, obstructive flow symptoms and even sudden death. It should be considered in the differential diagnosis of any intracardiac mass.

2. Case report

A 73-year-old woman with a history of hypertension and diabetes presented with progressive shortness of breath. Physical examination, electrocardiography and chest X-ray revealed atrial fibrillation and congestive cardiac failure. A transesophageal echocardiography revealed a 5–6-cm right atrial mass that appeared to arise from the interatrial septum (IAS), suggestive of a right atrial myxoma (Fig. 1). Coronary angiogram showed no evidence of coronary artery disease with preserved left ventricular function. The patient underwent a median sternotomy. After routine bicaval cannulation, a right transverse atriotomy was done. Significant bulging of the IAS into the right atrial cavity with an intact endocardial surface was noted. The endocardium over the mass was incised and the tumor was enucleated. The specimen was smooth, yellowish and homogeneous, and measured 6 × 4 × 4 cm. The left atrium which was entered via the right superior pulmonary vein was found to be normal. An autologous pericardial patch was harvested and used to close the IAS defect. The patch was secured using 4-0 prolene in a continuous fashion. The patient was weaned off cardiopulmonary bypass and maintained excellent hemodynamics. Intraoperative transesophageal echocardiogram revealed normal global ventricular function with no atrial septal defects. The postoperative course was uneventful and she was discharged on the sixth postoperative day. She is doing well at 6 months’ follow-up. The histopathology was consistent with lipomatous hypertrophy of the IAS (Fig. 2).

3. Discussion

Lipomatous hypertrophy of the IAS is defined as fatty infiltration > 2 cm thick of the atrial septum [1]. It comprises of a noncapsulated, circumscribed, fatty mass first described in, 1964 [2]. It may appear encapsulated because of the constraint of the surrounding structures including the fossa ovalis, atrial wall, interatrial sulcus, pericardium of the transverse sinus or posterior atrioventricular groove [3]. These masses are usually located cephalad or caudal to the fossa ovalis and can reach notable size [4]. The usual pattern is that of an exaggerated, wedge-shaped fatty collection in front of the fossa ovalis or a diffuse thickening of the IAS [5]. It has a distinctive histologic appearance marked by the presence of abundant multivacuolated
lipocytes and hypertrophied myocytes [1]. It differs from a pure lipoma in that lipomas are true neoplasms and usually occur in a much younger patients [3]. However, surgical treatment is similar for both.

The lesions are usually clinically silent and discovered incidentally at echocardiography or intraoperatively. Symptoms occur based on the size and the location of the lesion. They can become symptomatic as a result of conduction disturbances, atrial arrhythmias, valvular dysfunction and obstruction. Elderly patients with unexplained cardiomegaly, congestive cardiac failure and atrial arrhythmias, particularly premature atrial contractions, atrial fibrillation and supraventricular tachycardia, are likely to have this lesion [3]. It can be associated with significant atherosclerotic vascular disease and can produce embolic symptoms [6]. Transesophageal echocardiography is the diagnostic method of choice. Lipomatous hypertrophy of the IAS is a more generalized and progressive abnormality than previously thought and should be considered in the differential diagnosis of echocardiographic intracavitary right atrial mass [7]. Computed tomography scanning and magnetic resonance imaging can be useful in selected patients with large fatty infiltration or marked hypertrophy of the IAS.

Lipomatous hypertrophy of the IAS can be surgically excised. The large IAS defect that results after excision of the mass requires closure using a pericardial or a synthetic patch. Recurrence after excision has not been reported and the long-term prognosis is excellent. Malignant degeneration is a rare occurrence [3].

References