

Massive Atrial Septal Lipomatous Hypertrophy

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Case Report

A 73-year-old man was referred for aorto-coronary bypass surgery. Before the initiation of cardiopulmonary bypass, routine intraoperative transesophageal echocardiography (TEE) was performed. Unexpectedly, a large, lobulated, homogenous mass was noted to fill the right atrium (RA). It had a broad base of attachment to the interatrial septum but spared the fossa ovalis (Fig. 1).

The surgical procedure then was modified. In addition to the planned triple bypass grafting, atriotomy of the right atrial free wall was performed. On opening the RA, a large, multilobulated, smooth, yellow, fatty mass filling the RA was noted. It had no pedicle but had a broad attachment to the interatrial septum in the high RA. Subsequently, resection of the right atrial mass together with excision of a small margin of adjacent endocardium was performed. This was followed by repair of the atrial septum.

A surgical specimen (Fig. 2) revealed a large (12.5 × 6.5 cm) multilobulated mass. Microscopy of the specimen revealed a mass entirely made of mature adipose tissue without signs of malignancy. The fatty mass extended between myocardial fibers at the point of attachment to the atrial septum. It was partially covered with normal endocardium. No definitive capsule was recognized. The finding is consistent with

massive lipomatous atrial septal hypertrophy (LASH).

The patient was discharged home in stable condition.

Discussion

LASH was first described in 1964 in autopsy specimens.¹ Although computerized tomography (CT)² and magnetic resonance imaging (MRI)³ also can detect this abnormal thickening of the atrial septum, echocardiography currently is the diagnostic modality of choice.⁴

Echocardiograph criteria for the diagnosis of LASH include the characteristic dumbbell appearance of the interatrial septum, atrial wall thickness ≥ 15 mm, and the pathognomonic sparing of the fossa ovalis.⁵

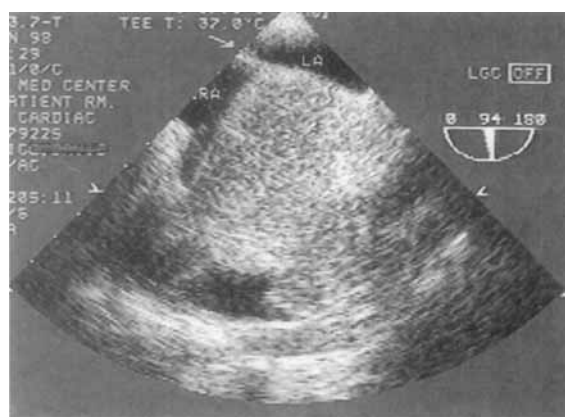


Figure 1. Transesophageal echocardiogram of the right atrium (RA), showing a large mass attached to the interatrial septum. The arrow points to the interatrial septum. TEE = transesophageal echocardiography; LA = left atrium; RA = right atrium.

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Figure 2. Pathological specimen removed at surgery.

Histologically, LASH is a benign growth in which the interatrial septum is infiltrated by mature adipocytes. LASH often is associated with fat deposits in other parts of the body such as subcutaneous lipomas,³ excessive fat accumulation in the atrioventricular (AV) groove,⁶ and obesity.⁷ Unlike true cardiac lipomas, it lacks an organized capsule.

LASH has been associated with an increased risk of atrial arrhythmias.⁸ However, it is unclear if any causality between LASH and atrial arrhythmias exists, as the apparent relation between these two entities may in part be the consequence of both conditions being common in the elderly.⁵

Compared with the dozens of case reports of LASH in the literature, the size of our patient's LASH is dramatic and unusual. It is important

for an echocardiographer not to mistake a large LASH for a true cardiac tumor.

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