Lipomatous hypertrophy of the interatrial septum: a case report

İnteratriyal septumda lipomatöz hipertrofi: Olgu sunumu

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Lipomatous hypertrophy of the interatrial septum is generally a benign disorder characterized by lipid accumulation in the interatrial septum. A 56-year-old asymptomatic woman with a history of hypertension and hyperlipidemia was referred to echocardiographic examination. Transthoracic echocardiography showed left ventricular hypertrophy, normal left ventricular systolic function, and left ventricular relaxation disturbance. The apical four-chamber view showed a hyperechogenic mass in the interatrial septum. Lipomatous hypertrophy was suspected and transesophageal echocardiography was performed. A dumbbell-shaped hypertrophy of 22 mm thickness was noted in the interatrial septum, which did not involve the fossa ovalis. There was no decrease in flow velocities of the superior and inferior vena cava nor a flow disturbance in the pulmonary veins. Cardiac magnetic resonance imaging showed lipomatosis and thickening in the interatrial septum and subepicardial region.

Key words: Adipose tissue; cardiomegaly/etiology; echocardiography; heart atria; hypertrophy; lipoma; magnetic resonance imaging.

İnteratriyal septumda lipomatöz hipertrofi, interatriyal septumda yağ birikimi nedeniyle oluşan genellikle benign bir bozukluktur. Öyküsünde hipertansiyon ve hiperlipidemi olan 56 yaşında, asemptomatik bir kadın hastaya ekokardiyografik inceleme yapıldı. Transtorasik ekokardiyografide sol ventrikül hipertrofisi ve sol ventrikül gevşeme bozukluğu izlenirken, sol ventrikül sistolik fonksiyonu normal bulundu. Apikal dört boşluk görüntüde, interatriyal septumda hiperekojenik bir kitleye rastlandı. Lipomatöz hipertrofiden şüphelenilerek yapılan transözofageal ekokardiyografide, interatriyal septumda 22 mm kalınlığında, dumbel şeklinde hipertrofi görüldü; fossa ovalis tutulumu yoktu. Süperiyor ve inferiyor vena kava akım hızlarında düşüşe ya da pulmoner venlerde akım bozukluğuna rastlanmadı. Kardiyak manyetik rezonans görüntülemede, interatriyal septumda ve subepikardiyal bölgede kalınlaşma ile birlikte lipomatozis izlendi.

Anahtar sözcükler: Yağ dokusu; kardiyomegali/etyoloji; ekokardiyografi; kalp atriyumu; hipertrofi; lipom; manyetik rezonans görüntüleme.

Lipomatous hypertrophy of the interatrial septum was first described at a postmortem examination in 1964.[1] It is defined as atrial septum thickening (>2 cm) due to lipid accumulation.[2] Lipid accumulation is generally seen in the elderly and obese patients.[3]

CASE REPORT

A 56-year-old asymptomatic female patient with a medical history of hypertension and hyperlipidemia was referred to our clinic for echocardiographic examination. She was on beta-blocker and statin treatment. Physical examination was normal. Transthoracic echocardiography (TTE) revealed left ventricular hypertrophy, normal left ventricular systolic function, and left ventricular relaxation disturbance. The apical four-chamber echocardiographic view showed a hyperechogenic mass in the interatrial septum. Lipomatous hypertrophy was suspected and transesophageal echocardiography (TEE) was performed to confirm the diagnosis. A dumbbell-shaped hypertrophy of 22 mm thickness was noted in the interatrial septum, which did not spread to the fossa ovalis (Fig. 1a). There was no decrease in flow velocities of the superior and inferior vena cava nor a flow disturbance in the pulmonary veins. Cardiac magnetic resonance imaging (MRI) showed lipomatosis and thickening in the interatrial septum and subepicardial region (Fig. 1b).

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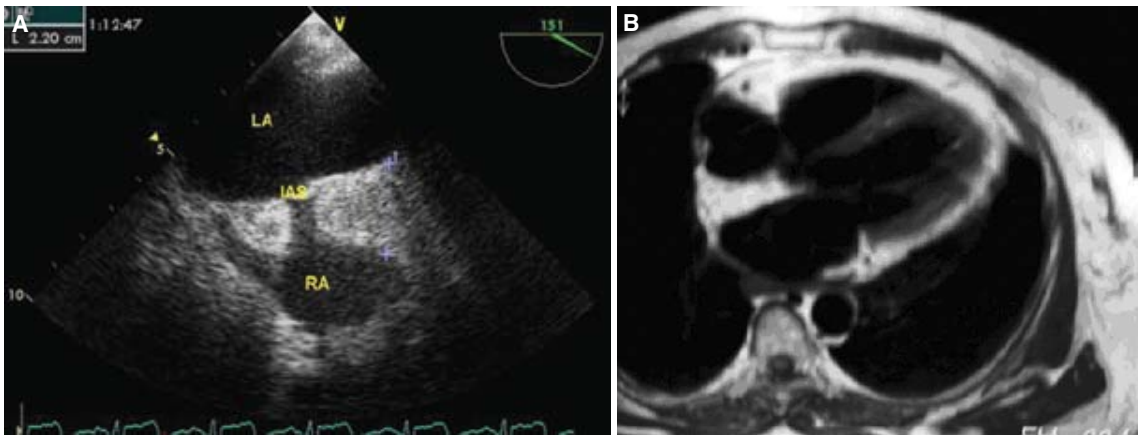

Figure 1. (A) Transesophageal echocardiographic view at the upper esophageal level and **(B)** cardiac magnetic resonance scan showing thickening of the interatrial septum. LA: Left atrium; IAS: Interatrial septum; RA: Right atrium.

DISCUSSION

The incidence of lipomatous hypertrophy was reported as 1% in necropsy studies and 8% in TTE studies.[4,5] In a prospective study in which multislice computed tomography (CT) was carried out, the incidence was found to increase with age and the incidence was higher than expected (2.2%).[3] Nonencapsuleted adipose tissue accumulates in the interatrial septum and results in thickening of the septum.[2] Imaging studies revealed a dumbbell-shaped lipid accumulation in the interatrial septum sparing the fossa ovalis.[6] Lipomatous hypertrophy can develop in other regions other than the interatrial septum. Rarely, it can be diffuse and the free wall of the right atrium may be infiltrated partially or completely with lipid tissue.[7] These lesions are clinically silent and thus detected incidentally during surgery or echocardiographic examination. Symptoms are related to the location and the size of the lesion. Lipomatous hypertrophy can be symptomatic due to conduction disturbances, atrial arrhythmias, valve dysfunction, and obstruction. Although it is a benign condition, it may be associated with atrial arrhythmias that require treatment.

Lipomatous hypertrophy should be suspected in the elderly patients in the presence of unexplained cardiomegaly, congestive heart failure, and atrial arrhythmias (especially atrial premature contractions, atrial fibrillation, and supraventricular tachycardia).[8] Transthoracic echocardiography is the diagnostic tool of choice.[7] Computed tomography and magnetic resonance imaging are helpful in the diagnosis and show hypertrophied septum and lipid accumulation.[6] It may rarely cause obstruction in the presence of very large lesions, requiring surgical resection and septal reconstruction via a pericardial or synthetic patch. Its long-term prognosis is excellent after surgical resection.[8,9] However, surgical resection is usually avoided and should only be considered in patients with severe obstruction in the superior vena cava or right atrium and in patients with intractable rhythm disturbances. Our patient was asymptomatic without any signs of significant hemodynamic obstruction of the blood flow and therefore surgery was not planned.

In conclusion, lipomatous hypertrophy is especially seen in elderly patients and may be diagnosed incidentally during noninvasive imaging methods and should be considered in the differential diagnosis of intracardiac masses.

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