

## CLINICAL IMAGE

# Right atrial mass-multimodality imaging—Massive lipomatous hypertrophy of the atrial septum

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### Abstract

Asymptomatic cardiac masses are often diagnosed incidentally. Massive lipomatous hypertrophy can be confused for other cardiac masses and need careful evaluation including multimodality imaging to manage appropriately.

### KEYWORDS

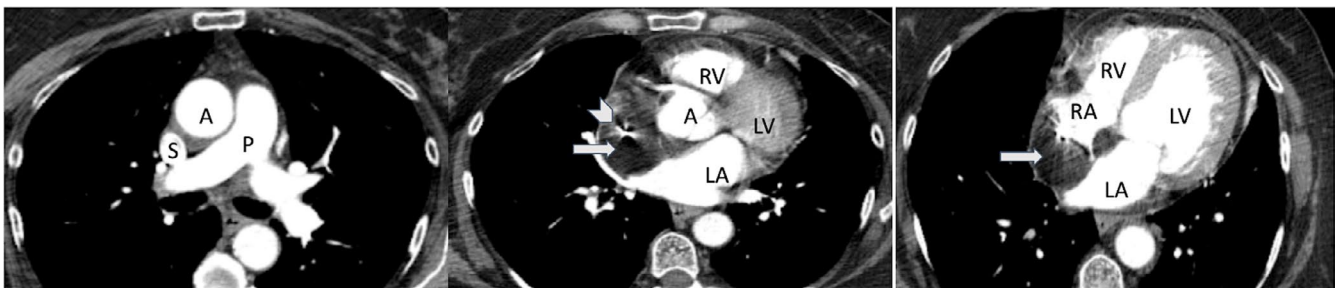
cardiac MRI, cardiac neoplasm, chest CT, lipomatous hypertrophy of the atrial septum, TEE

## 1 | CASE PRESENTATION

Asymptomatic cardiac neoplasms are often diagnosed incidentally. Right atrial mass close to septum needs careful evaluation and multimodality imaging to manage appropriately. This case highlights the utilization of multimodality imaging and heart team approach in the management of the right atrial mass.

A 68-year-old Caucasian woman presented with complaints of shortness of breath. Chest computer tomography

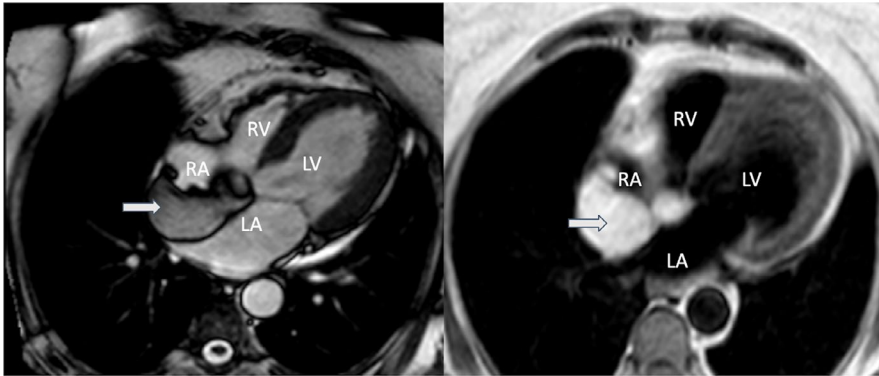
(CT) scan showed no pulmonary embolism but incidentally noted right atrial mass around  $6.2 \times 3.9 \times 7.4$  cm (Figure 1). Underwent cardiac magnetic resonance imaging (MRI) which showed tissue characteristics consistent with fat (lipoma vs lipomatous hypertrophy of the atrial septum [LHAS]) (Figure 2). In both imaging, studies noted compression of superior vena cava (SVC). She also had trans-esophageal echocardiogram (TEE) which showed the similar findings and classic dumbbell-shaped mass sparing of fossa-ovalis region (Figure 3) confirming the LHAS. With compression of



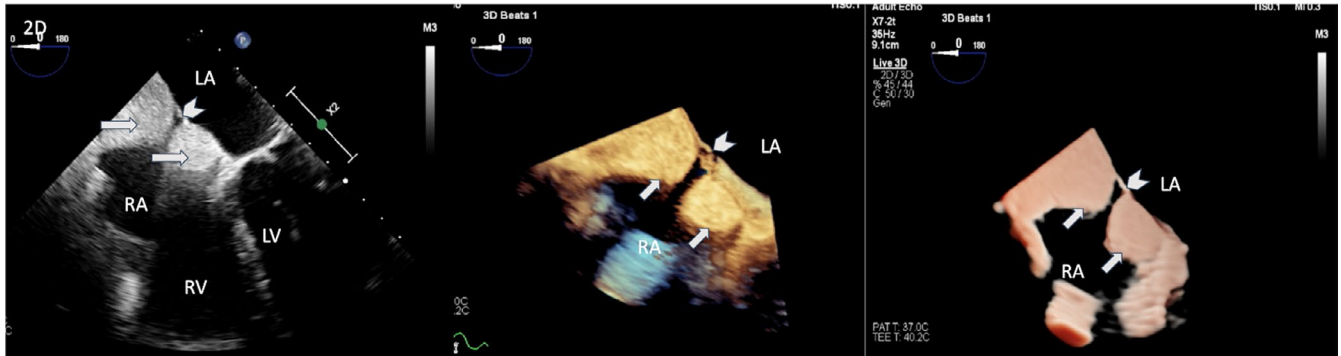
**FIGURE 1** Chest computer tomography (CT) scan showing mass encasing the inferior aspect of the superior vena cava causing narrowing (arrow head) and also showing the mass (arrow) in the right atrium

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**FIGURE 2** Cardiac magnetic resonance imaging (MRI) showing the mass (arrow) filling the 2/3rds of the right atrium



**FIGURE 3** Trans-esophageal echocardiogram-2D/3D showing classic dumbbell shaped mass with sparing of fossa-ovalis (arrow head). A—aorta, S—superior vena cava, P—pulmonary artery. LA, left atrium; LV, left ventricle; RA, right atrium; RV, right ventricle

the SVC, we consulted cardio-thoracic surgery and interventional cardiology who recommended conservative management as she does not have SVC syndrome.

## 2 | DISCUSSION

LHAS is usually a benign condition but symptoms can occur due to compression or arrhythmias. Differential diagnosis includes LHAS, intra-cardiac malignancies, myxoma, and lipoma. TEE has high sensitivity and specificity for detecting masses in the heart but further differentiation can be achieved with cardiac MRI and CT.<sup>1</sup> Lipoma is also similar to LHAS but it is more of an encapsulated mass of mature and fetal adipocytes.<sup>2</sup> This case illustrates multimodality imaging and heart team approach treating the cardiac masses.

### CONFLICT OF INTEREST

None declared.

### AUTHOR CONTRIBUTIONS

All the authors VK, DM, HT, JK: were involved in manuscript concept, design, analysis, and interpretation of data, drafting of the manuscript and critical revision of the manuscript for important intellectual content. DM and JK: personally involved in the patient's care.

### CONSENT STATEMENT

Informed written consent was obtained from the patient for publication.

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