

A case of biatrial cardiac amorphous tumor

Cardiac amorphous tumors (CATs) were earlier considered as calcified thrombi and later described as rare benign primary tumors. CAT has mostly been observed as a single mass in previous cases. In the present case report, a 62-year-old male patient was diagnosed with CATs in the left and right atria.

The patient had a history of hypertension and presented to our clinic with dyspnea. He did not have a history of known renal

failure and embolic phenomenon. Electrocardiogram revealed atrial fibrillation. Transthoracic echocardiogram showed normal left ventricular systolic function and a mobile mass with partial calcification attached to the left atrium (LA) (Fig. 1a). In addition, transesophageal echocardiography (TEE) revealed another mobile mass in the right atrial appendage (Fig. 1b, Video 1). The mass in the left atrium was also better visualized with TEE (Fig. 1c, 1d, Videos 2, 3). The relation of the left atrial mass with the mitral valve was shown by 2D and 3D TEE imaging (Videos 4, 5). The patient underwent successful resection of the two masses (Fig. 2a). Microscopic pathology revealed a calcific nodule with eosinophilic amorphous fibrinous material consistent with CAT (Fig. 2b, 2c). The patient underwent control transthoracic echocardiogram 1 month after surgery, which showed no recurrence.

Although the definite etiology is still unknown, it has been suggested that CAT is associated with endothelial damage, hypercoagulability, and stasis-related Virchow's triad. In addition, abnormal calcium metabolism has been associated with CAT, particularly in patients with end-stage renal disease and dialysis patients.

While CAT has mostly been observed as a single mass in previous cases, two CATs were seen in both atria in our case. Therefore, it should be noted that CATs can be found as a single mass as well as multiple masses.

Informed consent: Written informed consent was obtained from the patient for publication of the case report and the accompanying videos and images.

Video 1. Transesophageal echocardiography in midesophageal bicaval view showed the right atrial appendage mass (arrow)

Video 2. Transesophageal echocardiography in midesophageal short axis view showed the left atrial mass attached to the coumadin ridge (arrow)

Video 3. Transesophageal echocardiography in midesophageal two-chamber view showed left atrial mass (arrow) attached to the coumadin ridge

Video 4. Transesophageal echocardiography in midesophageal long-axis view showed the left atrial mass (arrow)

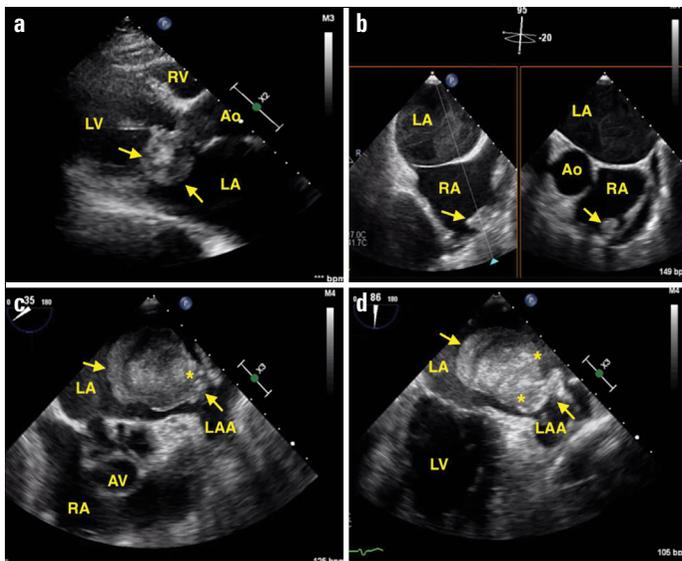


Figure 1. (a) Transthoracic echocardiography parasternal long axis view showed left atrial mass (b) Transesophageal echocardiography in midesophageal bicaval view showed the right atrial appendage mass (arrow) (c) Transesophageal echocardiography in midesophageal short axis view showed a left atrial mass (arrows) attached to the coumadin ridge and calcific nodules (asterisk) (d) Transesophageal echocardiography in midesophageal two-chamber view showed a left atrial mass (arrows) attached to the coumadin ridge and calcific nodules (asterisk)

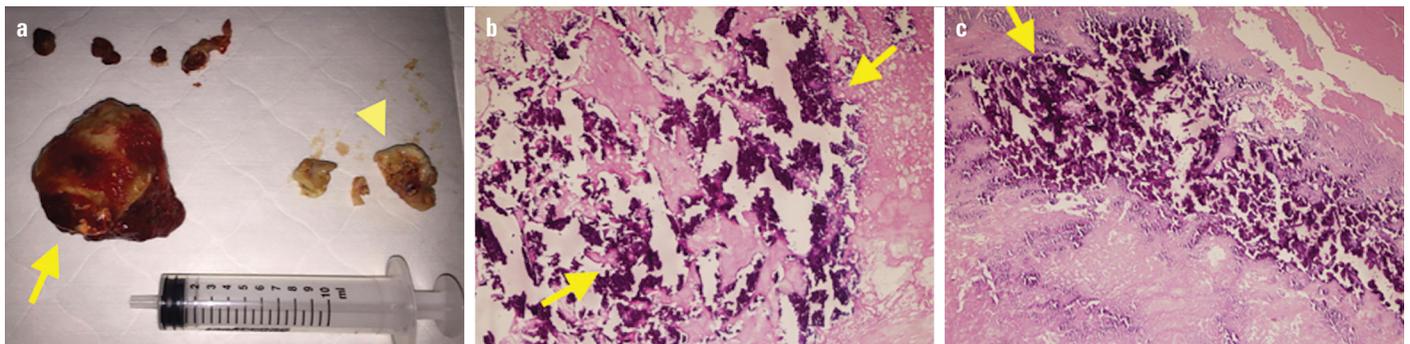


Figure 2. (a) Surgical specimen showing the excised left atrial mass (arrow) and right atrial appendage mass (arrow head) (b, c) Histologic examination of the excised mass confirming the calcified nodules (arrow) on an amorphous background of fibrin material

Video 5. 3D-Transesophageal echocardiography in midesophageal long-axis view showed the left atrial mass (arrow)

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A suspicious left atrial mass in a patient with stroke: Hiatal hernia 🎬

A 74-year-old woman was admitted to the neurology department with a history of syncope. Her medical history included diabetes mellitus and hypertension. Electrocardiography showed normal sinus rhythm. Cranial magnetic resonance imaging revealed acute corpus callosum infarction. To identify the potential cardioembolic source, we performed transthoracic echocardiography (TTE), which revealed a large, well-circumscribed, heterogeneous, echodense mass (4.1 cm×3.5 cm) thought to be within the left atrium (LA) (Fig. 1, Video 1). In order to visualize the structure better, we performed transesophageal echocardiography, but no mass was detected in LA (Video 2). Chest computed tomography (CT) revealed an extrinsic, inhomogeneous, large structure located posteriorly to the LA, consistent with a hiatal hernia (HH) (without an intracardiac mass) (Fig. 2). A 24-hour rhythm holter revealed paroxysmal atrial fibrillation. Therefore, anticoagulation was initiated.

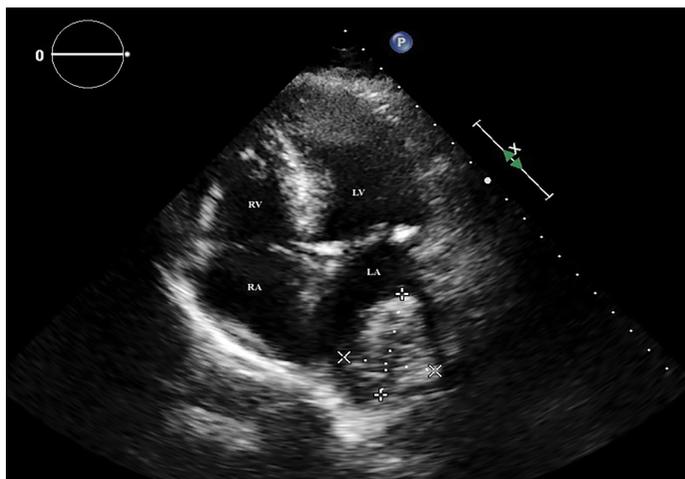


Figure 1. The apical four-chamber view demonstrating a heterogeneous mass within the left atrium

LA - left atrium, LV - left ventricle, RA - right atrium, RV - right ventricle



Figure 2. Axial view of thorax computed tomography depicting hiatal hernia posterior to the left atrium

AO - descending aorta, HH - hiatal hernia, LA - left atrium, RA - right atrium

HH is the herniation of elements of the abdominal cavity through the esophageal hiatus of the diaphragm such that it can mimic a left atrial mass on TTE by encroaching on the posterior aspect of LA. Some echocardiographic features may help the echocardiographer differentiate HH from other possible masses in the LA: (1) with proper angulation of the transducer, the echo density of HH extends beyond the margins of the atrium and (2) the oral indigestion of a carbonated beverage may result in the appearance of swirling echo densities in the mass (unfortunately, we were unable to test this). Nevertheless, cardiac CT is always useful for the better visualization of the mass, especially in a patient with stroke.

Informed consent: The author/s confirm that written consent for submission and publication of this case report including image(s) and associated text has been obtained from the patient.

Video 1. The apical four-chamber view demonstrating a suspicious large, well-circumscribed mass within the left atrium. Note the extension of the echo density beyond the margins of the atrium, with little angulation of the probe

Video 2. Transesophageal echocardiogram showing no mass in the left atrium

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