

A case of biatrial thrombus with atrial fibrillation

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Introduction. Biatrial thrombus is a rare condition. It causes both systematic and pulmonary embolization. Right atrial (RA) thrombi are occasionally found with pulmonary embolism (PE), or under the setting of atrial fibrillation (AF). Left atrial (LA) thrombi are most commonly found in the setting of AF, and sometimes with severe mitral valve disease, and like RA thrombi are almost never found in a patient in SR¹. The presentation of biatrial thrombi are reported in patients with a patent foramen ovale (PFO), known as "thrombus in transit", and in patients with coagulopathies. The absence of RAA enlargement may explain the lower incidence of RA thrombi². Transesophageal echocardiography (TEE) has emerged as the most sensitive modality for the detection of intracardiac thrombi. Multidetector computed tomography (CT) and cardiac magnetic resonance (CMR) may be powerful tools to differential diagnosis between a thrombus and other intracardiac masses, most frequently atrial myxomas. Treatment options may include anticoagulation, thrombolysis, interventional and surgical procedures. There is no evidence supporting the superiority of one above the others³.

Case report: We present the case of a 76-year-old man with dyspnea and persistent AF. TTE showed masses in LA and RA with preserved left ventricular systolic fraction (**Figure 1**). A TEE with bubble study showed no evidence of PFO with a mass in RA (54x36 mm), LA (35x15 mm) and left atrial auricle (41x25 mm) (**Figures 2-4**). D dimer was high but CT angiography showed no pulmonary emboli. Venous ultrasound duplex for deep vein thrombosis of the lower extremity was also negative. CT of the chest, abdomen and pelvis showed no signs of tumor, only bilateral pleural effusions with elevation of brain natriuretic peptide in the laboratory (**Figures 5, 6**). The patient was hemodynamically stable and anticoagulation with low molecular weight heparin was started. The next treatment plan was CMR and then decision for surgery procedure in another hospital but the patient died before transfer of sudden cardiac death. The autopsy report showed that it was a thrombotic masses.

Conclusion: Biatrial thrombus is a rare condition that presents the danger of progressing to embolism, syncope, congestive heart failure and sudden cardiac death. Treatment options should be decided case-by-case.

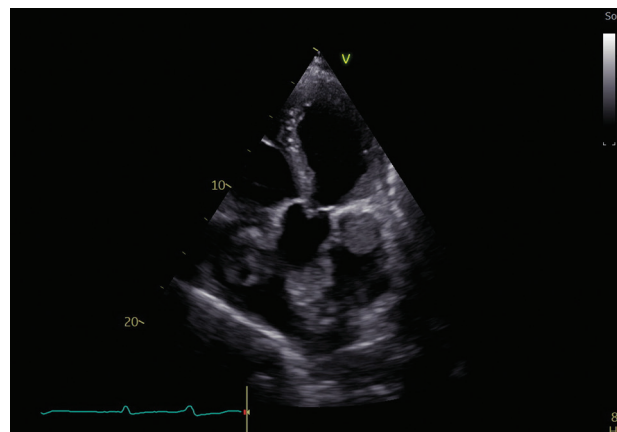


FIGURE 1. Transthoracic echocardiography image showing right and left atrial masses with different structures.

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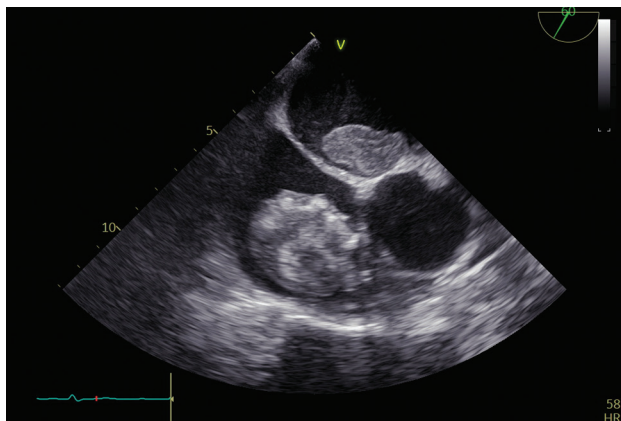


FIGURE 2. 60-degree view transesophageal echocardiography image showing right (54x36 mm) and left (35x15 mm) atrial masses.

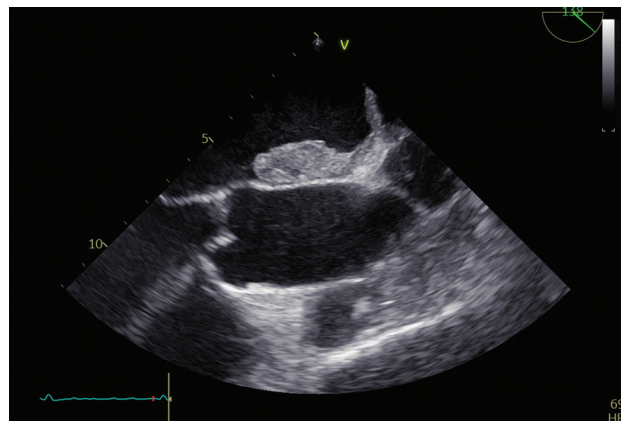


FIGURE 3. 138-degree view transesophageal echocardiography image showing an oval homogeneous left atrial mass.



FIGURE 4. 30-degree view transesophageal echocardiography image showing a homogeneous mass in the left atrial auricle (41x25 mm).

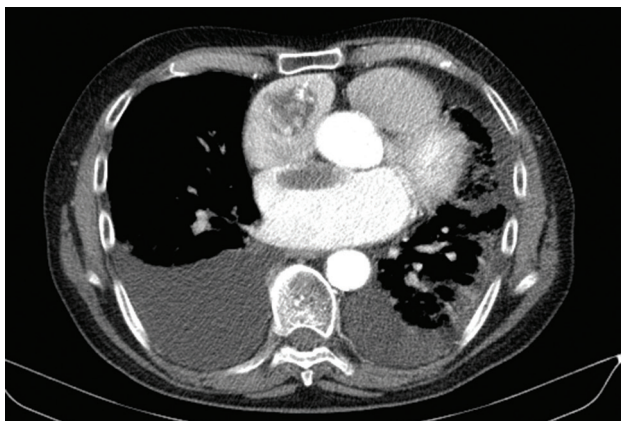


FIGURE 5. Computed tomography image showing hypodense avascular left atrial masses suspected of thrombi and hyperdense possible vascular right atrial mass.

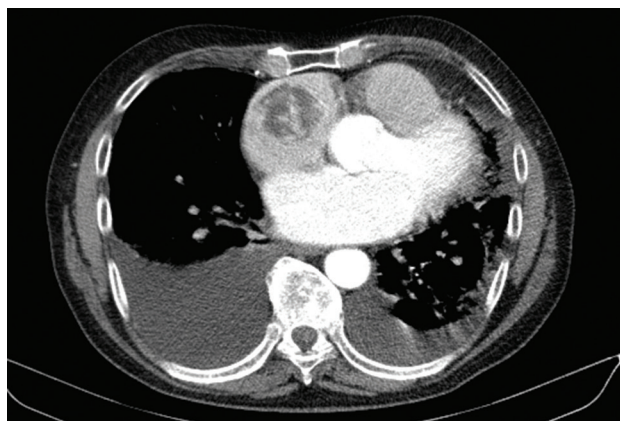


FIGURE 6. Computed tomography image showing right atrial mass with inhomogeneous structure, suggestive for a myxoma or thrombus.

LITERATURE

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