Transverse sinus mass misinterpreted as the source of cardiac emboli

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Abstract

Due to the proximity of the transvers sinus (TS) to the left atrial appendage (LAA) and pulmonary veins (PV), a mass in the TS can be misinterpreted as a LAA or PV thrombus, and considered as a source of emboli in a patient with stroke or transient ischemic attack. The incorrect identification of a mass as a LAA thrombus would initiate unnecessary anticoagulation therapy or potentially, an evaluation for the excision of the mass if there is a concern about dislodgement. We are presenting a case illustrating this confusion and review the literature for similar cases.

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Introduction

The transverse sinus (TS) is open at both ends and formed by the reflection of the visceral serosal pericardium from the posterior aspects of the aortic and pulmonary trunks over to the anterior aspect of the atrium [1]. Thus, a finger in the transverse sinus will pass behind the aortic and pulmonary trunks but in front of the superior vena cava on the right and the left atrial appendage (LAA) on the left [2]. A Transesophageal Echocardiography (TEE) in the mid esophageal view can, in most cases, distinguish the location of a TS mass, without the need for further investigation (CT or MRI).

Case Report

A 50-year-old diabetic woman presented with left sided numbness. The patient was admitted in Neurology for further investigation related to stroke of TIA. The clinical examination revealed that the patient was hemodynamically stable, with no motor weakness. The cardiac examination revealed a wide fixed second heart sound, and an ejection systolic murmur on the upper left sternum 2/6. The carotid was normal. The ECG was in sinus rhythm with Right Bundle Bransh Block. The laboratory report indicated a normal CBC and renal function. The HgbA1c was 7.5 with the LDL 4 mmol/L.

The TTE indicated a normal LV systolic function, normal valve, and LAVI 43 ml/m^2. The right side of heart was dilated with rise in the pulmonary artery pressure, with Resting PASP, 45 mm/hg. The TEE was done as a workup for stroke and revealed a mobile mass in the transverse sinus (TS) (Figure 1). The differential diagnosis was a LAA thrombus or PV mass versus fat in the TS (Figure 2). However, the different mid-esophageal views assisted in the distinction of the exact location of the mass, avoiding the initiation of unnecessary interventions.

Discussion

The incorrect identification of a mass as a LAA thrombus, would cause the initiation of unnecessary anticoagulation thera-

py or potentially, an evaluation for the excision of the mass if there is a concern about dislodgement. A TEE can reliably distinguish the location of a TS mass, avoiding the initiation of unnecessary investigations or interventions [3]. To identify a mass (fat) in the transverse sinus, rotating the transducer will document that it is within the transverse sinus and not the LAA. Transverse sinus fat does not need any intervention for itself, but it is associated with an increased severity of coronary artery disease which necessitates more risk factor control, especially in the context of our patient being a diabetic and dyslipidemic [4]. There is similar case of a transverse sinus mass mistaken as a possible aortic abscess [5].

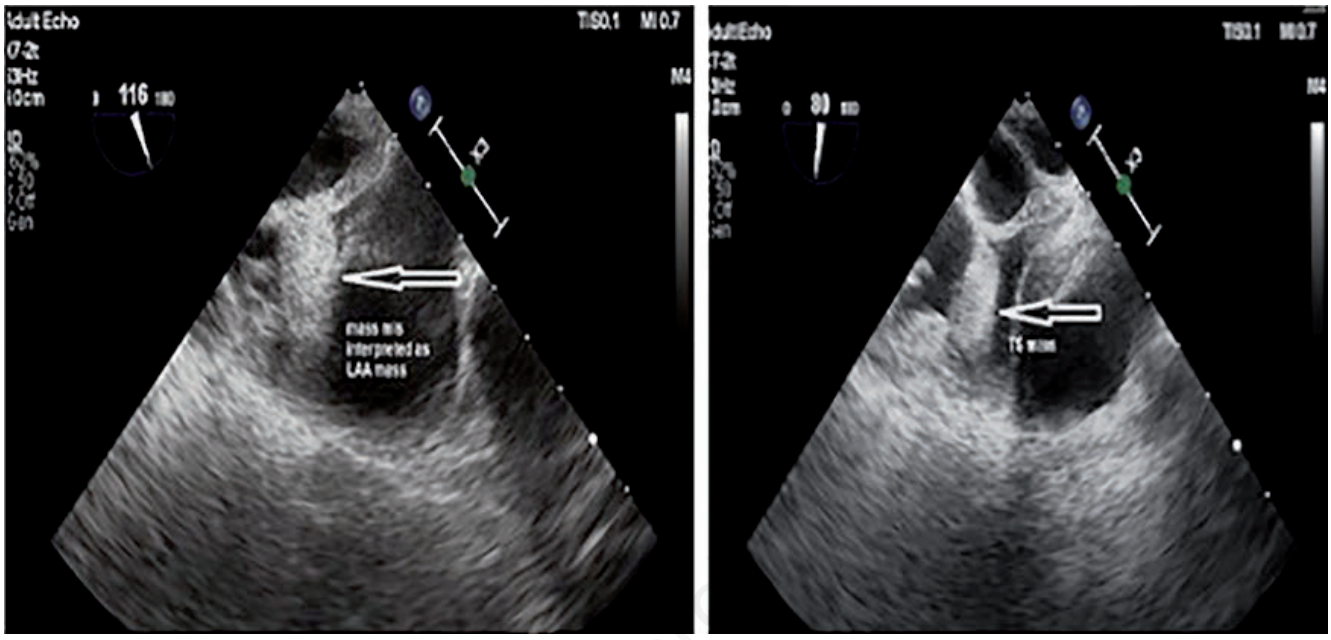

Figure 1. Mass in transverse sinus, thought to be a left atrial appendage thrombus.

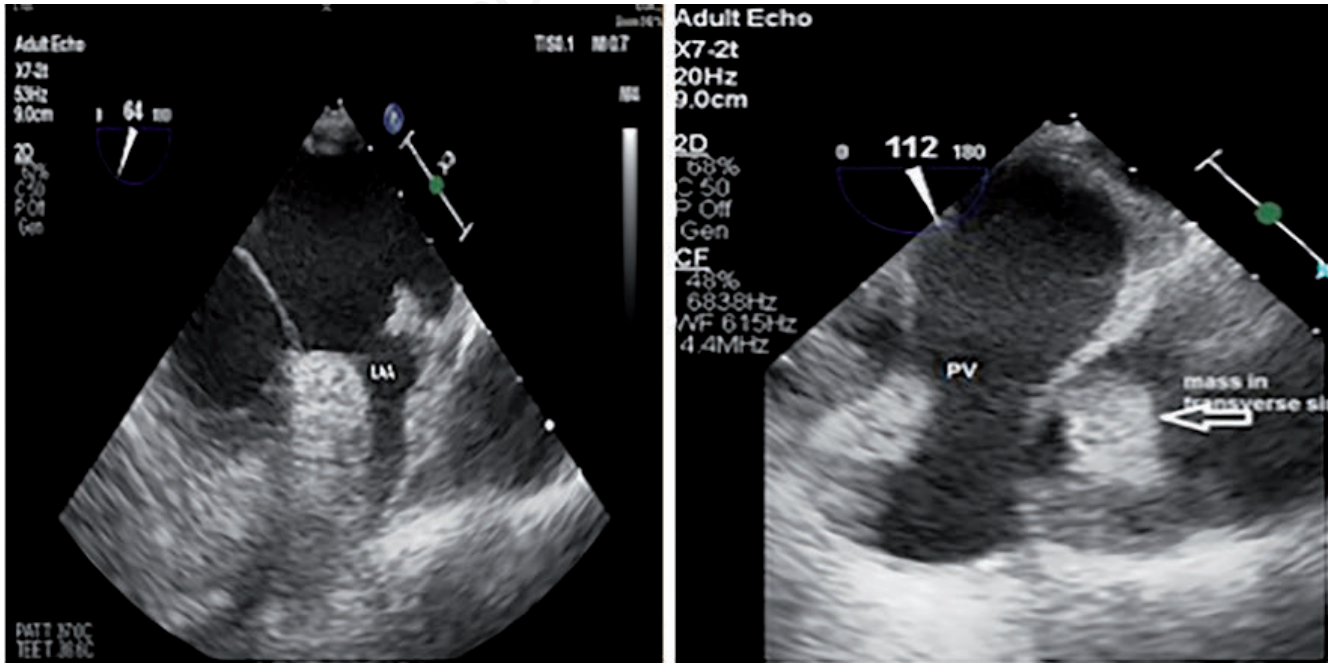

Figure 2. A focus left atrial appendage view showing clean LAA and pulmonary vein.

Conclusions

Transvers sinus fat might mimics a left atrium thrombus and a special attention to the probe direction of transesophageal echocardiography will differentiate between transvers sinus fat and a left atrial thrombus or mass and avoid unnecessary anticoagulation or further diagnostic imaging

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