An unusual case of left atrial “Mass”

Andreas Tassopoulos¹, Maria Mouratidou², Constantinos H Papadopoulos²
¹Cardiology Department, Iaso General Clinic, Athens, Greece
²Laboratory of Echocardiography, 2nd Department of Cardiology, Korgialenio – Benakio, Red Cross General Hospital, Athens, Greece

Abstract

We present a case of a 19-year-old patient who was admitted to our hospital due to persistent fever and weight loss. Cardiovascular imaging revealed signs of constrictive pericarditis and also the presence of a left atrial mass. Interestingly, empiric anti-inflammatory treatment not only reversed the pericardial constriction, but also reduced the size of this mass, which likely represented inflammatory content in the oblique pericardial sinus. The sinuses of the pericardium should be included in the differential diagnosis of cardiac masses, especially in the simultaneous presence of pericardial diseases.

Case presentation

A 19-year-old patient of Pakistani ethnicity was transferred to the Internal Medicine department of our hospital from a peripheral hospital due to persistent fever and weight loss. He had been living in Greece for the previous four months and had been receiving treatment for acute pericarditis for the previous three months. The initial findings of the workup were low-grade fever and mildly elevated inflammatory markers, while the serological tests for common causes of persistent fever were negative. The requested transthoracic echocardiogram revealed mildly reduced left ventricular systolic performance, a bouncing motion of the interventricular septum, a thickened pericardium with echodense content, mitral annular velocities with an “annulus reversus” pattern, a dilated inferior vena cava with poor respiratory variation and an echodense mass at the posterolateral wall of the left atrium that followed the motion of the atrial wall and projected into the left atrial chamber (Figure 1A-F). The transoesophageal echocardiogram, performed for the better evaluation of the left atrial mass, showed echo dense structures into the pericardial cavity around the right ventricular wall but failed to visualize the aforementioned mass. (Figure 1H) A thoracic CT scan showed the presence of encysted pericardial effusions with contrast enhancement of the cystic walls (Figure 2).

The patient was diagnosed with constrictive pericarditis, underwent pericardial biopsy (guided by pericardioscopy) and was put under treatment for a possible tuberculosis infection, due to his origin from an endemic area, his atypical symptoms and echocardiographic/ CT findings. The empiric antituberculosis treatment included four anti-TB drugs and adjunctive steroids, according to the current guidelines.1 However, the findings of the histopathological examination were consistent with non-specific inflammation, without signs of malignancy or granulomatous inflammation. The Quantiferon test, as well as PCR and cultures in gastric fluid and pericardial content came out negative for Mycobacterium tuberculosis. Therefore, anti-TB treatment was halted except from steroid administration which was continued in conjunction with colchicine. After the improvement of his clinical condition and the normalization of the inflammatory markers, the patient was discharged 30 days after his admission, with instructions for regular follow-up.
Figure 1: Initial echocardiographic study:
A. Parasternal long axis view. Echodense mass at the posterolateral wall of the left atrium that projects into the left atrial chamber (arrow).
B. Parasternal short axis view. Thickened pericardium with echodense content (arrow).
C. M-mode echocardiography of the left ventricle. Bouncing motion of the interventricular septum (white arrow) and diastolic flattening of the posterior wall (black arrow).
D. Apical 4-chamber view. Left atrial mass of equal echodensity as the pericardial content. E. Subxiphoid view. Dilated inferior vena cava. F and G. Tissue doppler measurement of medial (F) and lateral (G) myocardial tissue velocity. Mitral lateral e’ velocity is lower than the medial e’ velocity (“annulus reversus”). H. Transoesophageal four-chamber view. Echodense pericardial content (arrow).

Figure 2: Thoracic CT scan. Encysted pericardial effusions (arrow).
The follow-up echocardiographic examination, one month after patient’s discharge, showed an improved left ventricular systolic performance, without the bouncing motion of the interventricular septum, the “annulus reversus” pattern and the dilated inferior vena cava that had been observed in the previous study. The thickness of the pericardium, the volume of the pericardial content and the size of the left atrial mass had been reduced compared to the previous study (Figure 3). These findings supported the diagnosis of transient constrictive pericarditis, considering the fact that empiric anti-inflammatory treatment reversed the pericardial constriction. Therefore, the patient was decided to continue the anti-inflammatory treatment with a careful tapering plan. The reduction of the aforementioned mass size also suggests that this finding likely represented inflammatory content in the oblique pericardial sinus that projected in the left atrium. This specific presentation of a solely echodense oblique sinus mass is an unusual finding. In most cases of oblique sinus (pseudo)masses, pericardial effusions within the oblique sinus permit the fat of the posterior atrioventricular groove to “pop out”, hence the simultaneous presence of a hyperechoic and an echo-free space is observed. These masses are usually detected with transthoracic imaging, whilst transoesophageal...
echocardiography is of limited value because the posterior wall of the left atrium is often not visualized in its entirety. This case indicates that the sinuses of the pericardium should be included in the differential diagnosis of cardiac masses, especially in the simultaneous presence of pericardiac diseases.

**Conflicts of Interest and Source of Funding:** None declared.

**References**
