Giant left ventricular vegetation mimicking a cardiac tumor

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Abstract

Transesophageal echocardiography (TEE) is the gold standard for diagnosing intracardiac masses (1). Sometimes, its unusual location, size, and patient presentation can pose significant diagnostic challenges. Here we report a rare case of large intra-cardiac vegetation mimicking a cardiac tumor.

Case Presentation:

A 65-year-old female was brought to an outside hospital with complaints of word-finding difficulties and altered mental status for two days. Her past medical history was notable for hypertension, dyslipidemia, multiple previous cerebrovascular accidents without any residual deficits, peripheral vascular disease, atrial fibrillation on Apixaban, coronary artery bypass grafting (CABG) with bio-prosthetic mitral valve (BPMV) replacement and left atrial appendage ligation six years ago. She was afebrile on presentation and had no other neurological deficits on her exam. Blood work indicated mild leukocytosis of 11.4 x10^3 uL (reference 4.5–11), urine analysis, and culture was negative for infection. Computed tomography (CT) of the head showed multiple small old infarcts. Head and neck computed tomography angiography (CTA) revealed no evidence of large vessel occlusion or critical stenosis. Echocardiography showed an ejection fraction of 70% and a large echo density on the posterior part of the BPMV on the ventricular side. She was transferred to our facility for further evaluation of the mass. TEE showed a #25 Carpentier Edwards's BPMV with a large echogenic mass measuring 2.6 cm x 1.7 cm attached to the ventricular side of the mitral annulus (Figures 1 and 2). From the echotexture, location, and size, it appeared to be more likely a neoplasm than vegetation. The mean gradient across the valve was 7 mm Hg, and the valve area by three-dimensional planimetry was 2 cm^2. Post-TEE patient had worsening leukocytosis to 21x10^3 ul, which prompted consult with an infectious disease specialist who recommended blood cultures. Growth of*Streptococcus Gordonii* was noted in 4/4 culture bottles. She was started on intravenous (IV) ceftriaxone 2g per 24 h with gentamicin 3mg/kg every 48 h for synergy. Repeat blood cultures were negative. Subsequent brain magnetic resonance imaging (MRI) showed multiple small acute infarcts in the left posterior parietal lobe. The patient underwent excision of Mitral annular mass along with redo mitral valve replacement and CABG x 1 after completion of two weeks of antibiotics. The patient had an uneventful postoperative recovery. While the surgeon described the mass as suspicious for myxoma, subsequent pathology was notable for fragments of material consisting of fibrin, thrombus, and acute inflammation, consistent with vegetation. No vegetation was identified on the cusps of the BPMV specimen.

Discussion:

TEE is the gold standard for non-invasive evaluation of intracardiac masses; however, in our patient, the location of the vegetation was unusual as it was attached to the endocardial border on the high-pressure (ventricular) side. It is also highly unlikely for the vegetation of that size to initially present only with embolic phenomenon without any constitutional or infective symptoms. Cases in which the suspicion of vegetation versus cardiac tumor exists, an MRI could help make that distinction (1, 2).

References:

1. Yu PJ, Fordyce M, Srichai MB, *et al* : Giant right atrial wall vegetation mimicking cardiac tumor. *J Am Soc Echocardiogr* 2007; **20** : 1315e9– 1315e11.
2. Rangel-Hernández MA, Aranda-Fraustro A, Melendez-Ramirez G, Espínola-Zavaleta N. Misdiagnosis for right atrial mass: a case report. *Eur Heart J Case Rep* . 2018 Jan 24;2(1):yty004. doi: 10.1093/ehjcr/yty004. PMID: 31020086; PMCID: PMC6426073.

Figure and Video Legends:

Figure 1: Transesophageal echocardiography at mid esophageal view showing left atrium (LA), left ventricle (LV) and bio-prosthetic mitral valve (BPMV).

(1A) Shows a large 2.7 cm x 1.7 cm echogenic mass attached to ventricular side of the mitral annulus.

(1B) Focussed view of the BPMV showing the attachment of the mass.

Figure 2: Transesophageal echocardiography (TEE) with echo contrast (definity) at mid esophageal and trans-gastric views.

(1A) TEE at mid esophageal view at 125 degrees shows a large 2.7 cm x 1.7 cm echo dense mass attached to ventricular side of the mitral annulus.

(1B) Trans-gastric view of the left ventricle showing the echo dense mass attached to mitral annulus.

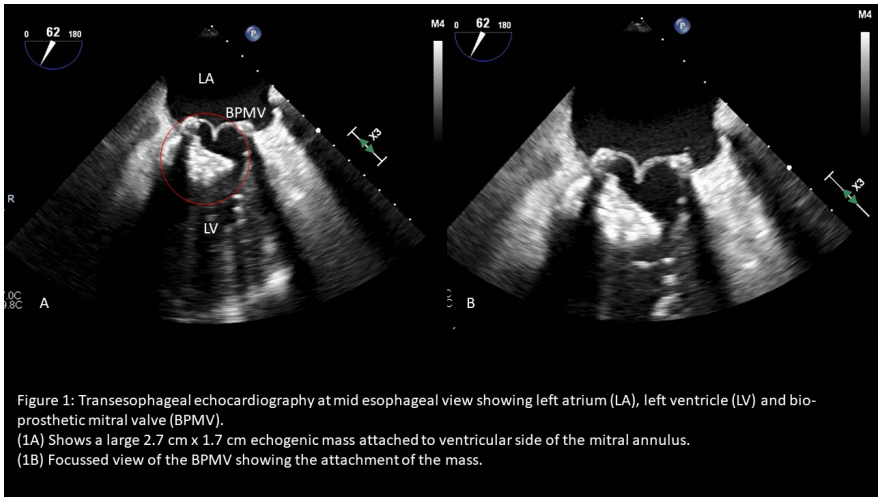
Figure 1A- Transthoracic Echocardiography parasternal long axis view, showing large mass (white arrow) on ventricular side of mitral valve.

Figure 1B - Transesophageal echocardiography (TEE) view at mid-esophageal level 62 degrees, shows normally functioning bio-prosthetic mitral valve (BPMV) with a large mass attached to the ventricular side of the mitral annulus (arrow).

Figure 1C - Transesophageal echocardiography (TEE) view at mid-esophageal level 62 degrees focusing on BPMV, shows an echogenic annular mass attached to the ventricular side (arrow).

Figure 1D - Transesophageal echocardiography (TEE) view at mid-esophageal level 125 degrees with echo-contrast (Definity), shows a large echogenic mass (suggesting high vascularity and Definity accumulation) attached to the ventricular side of the mitral annulus (arrow).

Figure 1E - Transesophageal echocardiography (TEE) transgastric view at 88 degrees with echo-contrast, with a large mass attached to the ventricular side of the mitral annulus (arrow).



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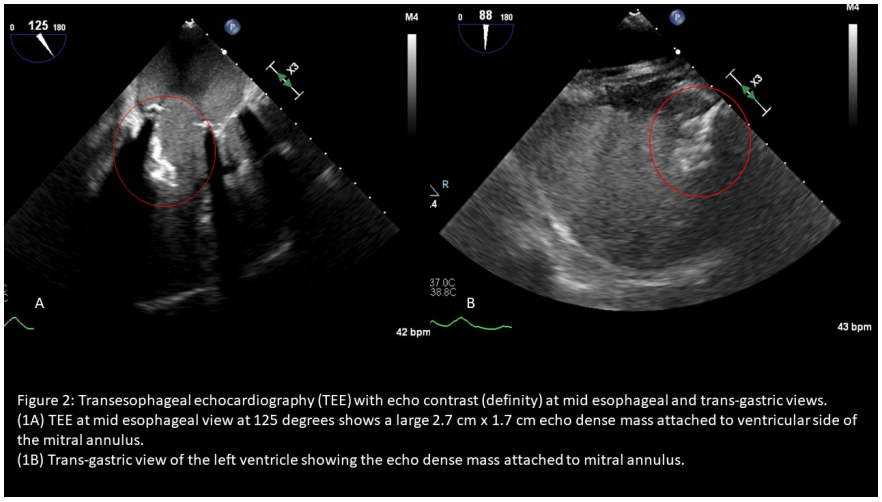

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