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Post Transapical Aortic Valve Replacement (TAVR) Pseudoaneurysm

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A 63-year-old female presented to the emergency department with complaints of her “heart beating out of my chest,” palpitations, and shortness of breath. She was three months postoperative a #23 Edwards Sapien Transapical Aortic Valve Replacement (TAVR). On exam she was surprisingly comfortable in appearance with an easily visible pulsatile mass on her left anterior chest.

A computed tomography revealed a large, high density collection extending from the apex of the left ventricle through the left anterior fifth-sixth intercostal space into the left anterior chest wall (Figure). The pseudoaneurysm measured approximately 9.7cm by 6.5cm. The heart appeared mildly enlarged and a percutaneously placed aortic valve was noted. There was atherosclerotic calcification in the coronary arteries and thoracic aorta. No pleural or pericardial effusion was present. A healed medial sternotomy and a sternal plate were also noted.

A 2D Echocardiogram (Video) showed a large pseudoaneurysm located at the apex of the left ventricle associated with a large apical pulsatile collection. The “neck” of the pseudoaneurysm measured 1cm. There was large and turbulent flow between the left ventricle and the large collection of the pseudoaneurysm. The left ventricular (LV) chamber size and systolic function were normal. Moderate concentric LV hypertrophy was present and the LV ejection fraction was visually estimated to be 60% (in pseudoaneurysm setting). The right ventricle was enlarged with reduced systolic function. Both atria were dilated (moderately on the left, mildly on the right). The aortic valve showed a #23 Edwards Sapien TAVR with no regurgitation. The mitral valve showed thickened leaflets, annular calcification, and moderate regurgitation. The tricuspid valve showed mild regurgitation but no stenosis.

Reports of false or pseudo aneurysms as complications of

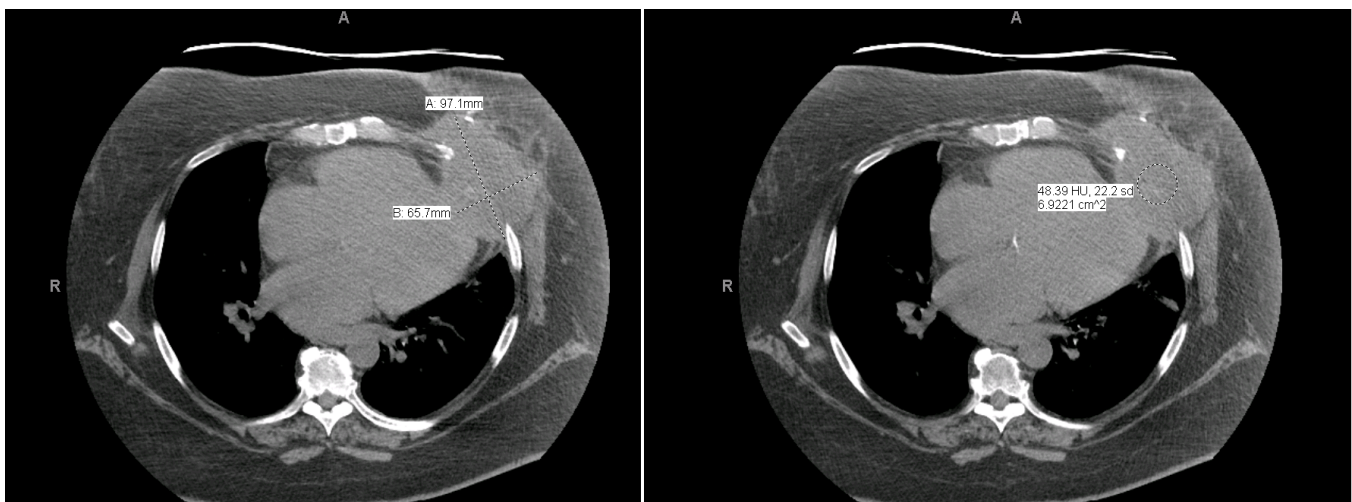


Figure. LVI-CT of the chest without contrast.
 LVI-CT, left ventricular index-computed tomography

TAVR are rare, and only a handful ranging from two weeks to five months postoperatively have been reported. 1-4 Surgical repair is necessary.

Video. Echocardiogram.

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