

## Cardiac Imaging

## A Giant Left Ventricular Pseudoaneurysm Presenting with Severe Mitral Regurgitation

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In the reperfusion era, left ventricular pseudoaneurysm post-myocardial infarction is rarely seen. Echocardiography is used for diagnosis and follow up. Herein, we present a case of a giant pseudoaneurysm (12.1 × 5.5 cm) with severe mitral regurgitation and decompensated heart failure. The patient underwent successful cardiac surgery.

A 66-year-old male patient was admitted to our cardiology clinic with complaints of dyspnea and orthopnea. He had a history of myocardial infarction 1 month previously, for which a right coronary artery (RCA) intervention was performed in another hospital. Functional capacity was determined as NYHA Class III. Echocardiography revealed a giant pseudoaneurysm involving the inferior and posterolateral walls, with dimensions of 12.1 × 5.5 cm, and the neck was measured as 37 mm (Figure 1). Coronary angiography depicted a patent RCA stent and non-critical lesions in the left coronary system. Ventriculography was not able to show the whole aneurysm. Urgent surgery was performed for pseudoaneurysm resection using a Teflon patch closure. Mitral valve repair was not required. After surgery, the left ventricular posterolateral wall was akinetic and mild mitral regurgitation was detected (Figure 2).

Left ventricular pseudoaneurysm related to myocardial infarction is rare, but should be suspected in post-myocardial infarction patients who present with unexplained heart failure and resistant ventricular arrhythmias. It can also have an embolic source.<sup>1</sup> Rarely, functional mitral regurgitation can be detected due to involvement of the bases of the papillary muscles.<sup>2</sup> Transthoracic echocardiography (TTE) is used for diagnosis. An abrupt transition and an acute angle between myocardium and aneurysm, a narrow neck at the site of rupture, and partial filling of the aneurysm with thrombus are characteristic echocardiographic findings of pseudoaneurysms.<sup>3</sup> Sometimes, multiplane Doppler transesophageal echocardiography (TEE) is the method of choice in patients in whom a suspected posterior pseudoaneurysm cannot be documented sufficiently by TTE.<sup>4</sup> The management of pseudoaneurysms differs from that of true aneurysms, which are generally treated medically. Pseudoaneurysms have a higher risk of spontaneous rupture due to their lack of myocardial support and urgent surgical intervention is required.<sup>5</sup>

Here we presented a case of a giant left ventricular pseudoaneurysm with severe mitral regurgitation, which was treated surgically without mitral valve repair.

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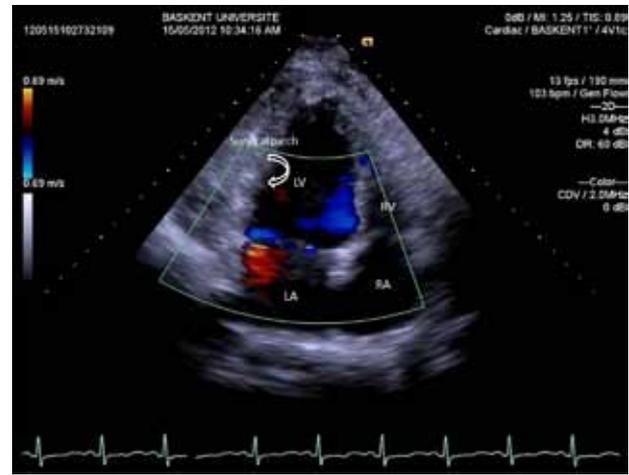
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**Figure 1.** Blood flow into the pseudoaneurysm is seen in apical 4-chamber view. The pseudoaneurysm was lined with thrombus. A myocardial defect starts next to the base of the posterolateral papillary muscle and severe mitral regurgitation is shown. No structural mitral valve disease was detected.



**Figure 2.** Post-surgical echocardiography in the apical 4-chamber view, showing the left ventricle repaired with a surgical patch-line. A trace of mitral regurgitation remains.

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