

Large hole no low-flow symptoms

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Introduction: Left ventricular pseudoaneurysm (PSAN) is a rare condition that occurs because of myocardial free wall rupture, mostly located posterolateral. The most prevalent causes of PSAN are acute myocardial infarction (55%), cardiac surgery (33%), trauma (7%) and infection (5%). It can be asymptomatic, but it may also cause symptoms of heart failure, arrhythmias, thromboembolic events, and sudden cardiac death¹. Treatment is surgical.

Case report: 50-year-old patient experienced a myocardial infarction without ST elevation. Angiography revealed severe stenosis of the mid-LAD (LAD = left anterior descending artery) and subocclusion of the OM2 (second obtuse marginal) branch. The LAD lesion was treated with stent implantation, and the obtuse marginal arteries lesion were addressed with drug-coated balloons. Echocardiography showed a dilated left ventricle, reduced global ejection fraction (LVEF 38%), and hypokinesia of the inferoposterolateral wall. During a regular cardiology follow-up after 3 months, the patient was asymptomatic, normotensive, and had normal heart rate. The laboratory findings showed only slightly elevated NT-proBNP levels at 1214 pg/ml. Echocardiography revealed a large PSAN of the posterolateral wall. The wall defect measured 34x35mm, and the PSAN itself was almost 7 cm in size, with some thrombotic deposits present (**Figure 1A**). Computed tomography confirmed the presence of a large PSAN in basal posterolateral wall (**Figure 1B**). The patient underwent cardiac surgery, which involved the excision of the LV pseudoaneurysm and patch repair of free wall rupture. The operation was uneventful (Dor procedure) (**Figure 2**). Follow-up echocardiography showed echogenic myocardium of the posterolateral wall (patch), no interruption of myocardial continuity, and continued hypokinesia and dyskinesia of the same region (**Figure 3A**). The global LVEF was reduced to 35%. Postoperative CT confirmed no residual wall microdefects (**Figure 3B**). The patient's postoperative recovery proceeded well, and he was discharged 7 days postoperatively.

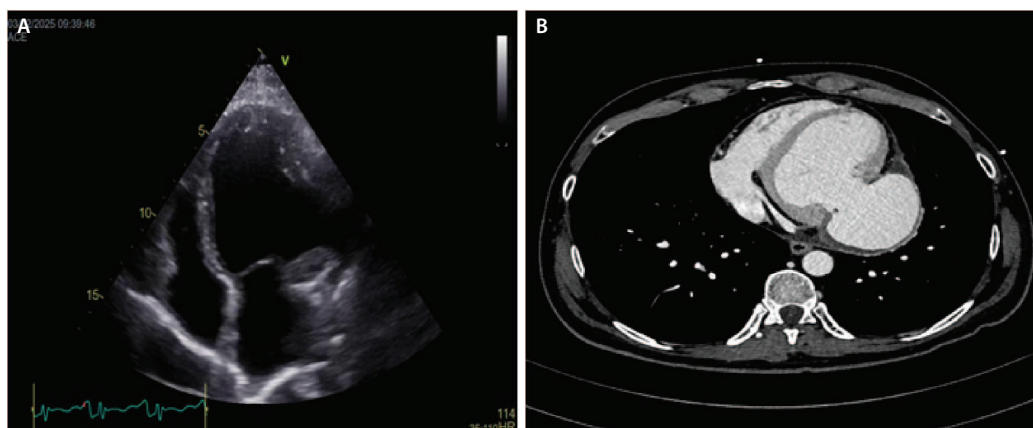


FIGURE 1. A) preoperative transthoracic echocardiogram: the four chamber view showing pseudoaneurysm (PSAN) of the posterolateral wall; B) preoperative computed tomography: large PSAN in the basal posterolateral wall.

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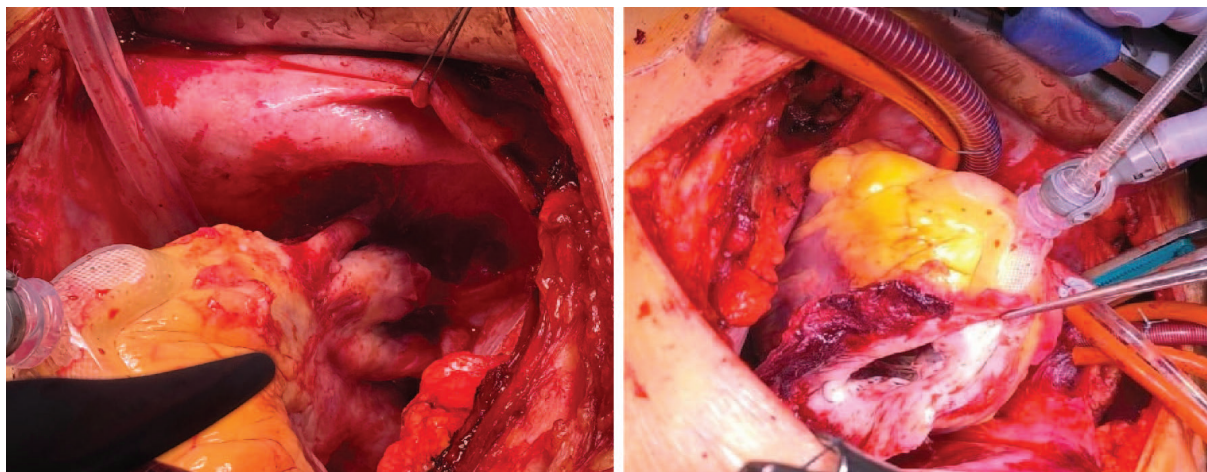


FIGURE 2. Intraoperative photographs show the posterolateral left ventricular pseudoaneurysm.

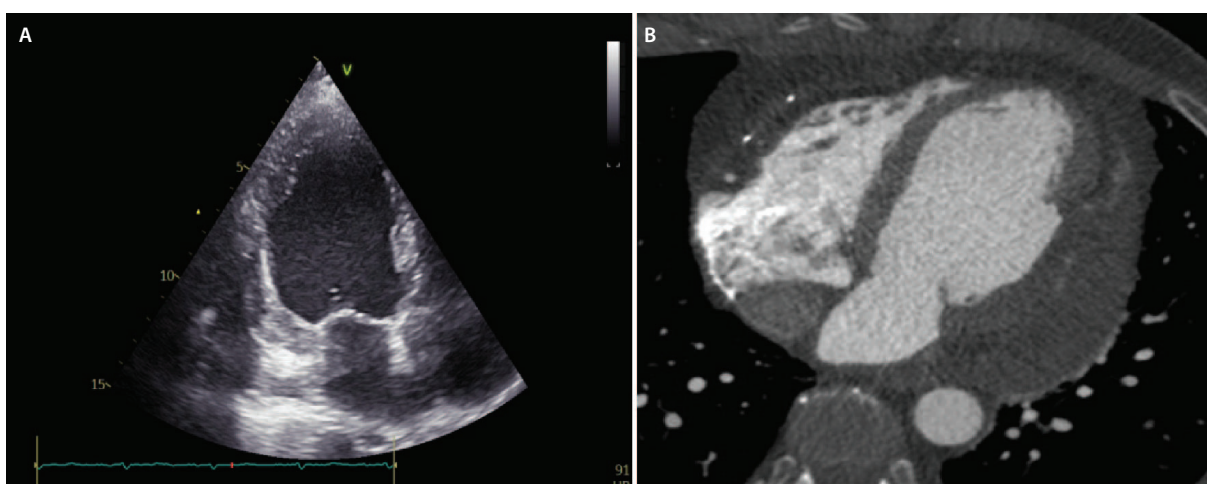


FIGURE 3. A) Postoperative transthoracic echocardiogram: the two chamber view showing the basal lateral wall patch; B) postoperative computed tomography: no residual wall microdefects.

Conclusion: Asymptomatic patients with PSAN are quite rare and echocardiography is key method for early diagnosis. Surgical treatment is recommended for large pseudoaneurysms, symptomatic patients, and for those discovered within 3 months after myocardial infarction. Due to significantly higher perioperative mortality for patients with PSAN occurring within 2 weeks of myocardial infarction, it should consider deferring surgery for patients with stable acute ventricular pseudoaneurysms to reduce the risks associated with early repair².

LITERATURE

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