Inferior wall STEMI presenting with a ruptured intraseptal pseudoaneurysm

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DESCRIPTION

A 78-year-old man presented with progressively increasing dyspnoea, 2 weeks after experiencing ST elevation inferior wall myocardial infarction that was not thrombolysed because of late presentation. He was Killip class 2 with raised jugular venous pressure. Cardiac auscultation revealed a grade 4 harsh systolic murmur in the lower left parasternal area, and a loud S2 with a prominent right ventricular S3. Echocardiography demonstrated akinetic and thinned out basal inferior and basal inferior septal segments (video 1). A pseudoaneurysm extending from the inferior septum was noticed (video 1 and figure 1A), which was thin walled and had a relatively narrow entrance, with a shelf-like overhanging edge (figure 2). Colour flow signals demonstrated marked turbulence of blood flow from the cavity of the left ventricle (LV) into the pseudoaneurysm and then into the right ventricular cavity, confirming rupture into the right ventricle (RV) (figures 1B and 3). An emergent cardiac MRI confirmed the echocardiogram findings (figure 4). Coronary angiogram revealed single vessel disease with a 99% stenosis in the mid-right coronary artery (figure 5). LV angiogram also demonstrated a septal pseudoaneurysm with subsequent filling of the RV (figure 6 and video 2). The patient was managed with intensive vasodilator therapy in addition to other standard treatment.
Early cardiac surgery was advised but, unfortunately, the patient’s family refused and requested discharge, against recommendations. LV pseudoaneurysm results from a contained rupture of the LV free wall. Rarely, it can occur within the ventricular septum, as in this case. It occurs at the base of the heart in inferior myocardial infarction. Early recognition is important since the likelihood of spontaneous rupture is high.

Differentiation of LV pseudoaneurysms from true aneurysms on cardiac imaging is difficult. Presence of certain features such as globular contour, narrow entrance and overhanging shelf-like edges on echocardiography suggests the diagnosis of pseudoaneurysm. This differentiation is important since pseudoaneurysms have a high risk of spontaneous rupture. Advanced age, late presentation and lack of reperfusion therapy are some of the factors predisposing to postmyocardial infarction ventricular septal rupture, which should always be suspected if the patient develops a new harsh systolic murmur in the parasternal area, along with congestive heart failure or cardiogenic shock.

Early diagnosis and rapid surgical intervention are required for optimal outcome. Medical treatment aims at providing initial temporary stability and involves the judicious use of vasodilators, including nitroglycerine, sodium nitroprusside and ACE inhibitors.

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Competing interests None declared.

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REFERENCES