

# Incidentally discovered left ventricular true aneurysm and ventricular septal rupture after silent myocardial infarction in an elderly diabetic patient

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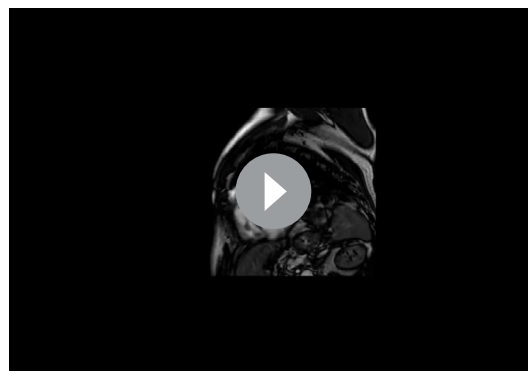
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## DESCRIPTION

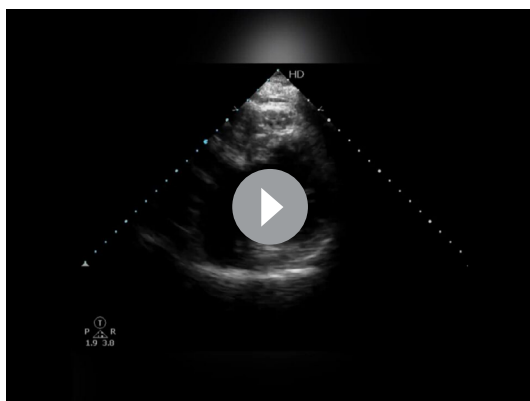
A man in his 70s, who smokes one pack a day with a medical history of hypertension and type II diabetes mellitus presented to the outpatient clinic complaining of a 3-month history of dyspnoea grade II with no history of any acute cardiac events. Clinical examination was unremarkable except for a pansystolic murmur over the parasternal area. His ECG showed inferior Q waves. Transthoracic echocardiography (TTE) showed incidentally discovered inferior wall true aneurysm, and a ventricular septal rupture (VSR) located at the basal inferoseptal segment with a left to right shunt (video 1). Cardiac magnetic resonance (CMR) confirmed the echocardiographic findings (figure 1; video 2). Coronary angiography was performed revealing proximal significant eccentric lesions in both left anterior descending (LAD) and left circumflex arteries with a diseased right coronary artery without significant



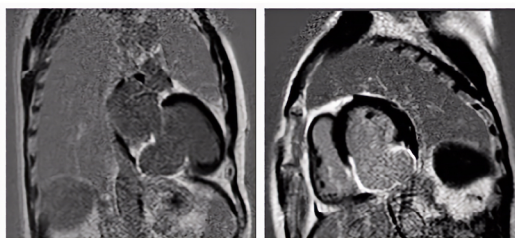
**Video 2** Cardiac magnetic resonance showing a large inferior wall aneurysm

lesions (video 3). After a heart team assessment, he was counselled to have a left internal mammary artery graft to LAD, ventricular aneurysmectomy and VSR closure. However, he declined surgical intervention and opted to be treated conservatively with anti-ischaemic and anti-failure measures.

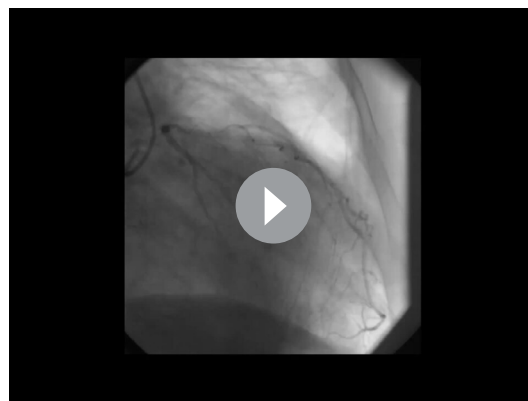
Advances in reperfusion strategies have lowered the incidence of mechanical complications of acute myocardial infarction (AMI).<sup>1</sup> VSR is a rarely seen complication in the setting of AMI, which usually results in cardiogenic shock, right ventricular dysfunction with a high incidence of mortality even with immediate surgical repair. A true ventricular aneurysm commonly results after unrevascularised AMI. If the patient survived the acute phase, ventricular remodelling and scarring lead to aneurysm formation. Clinical presentations are heart



**Video 1** Transthoracic echocardiography showing incidentally discovered inferior wall true aneurysm, and a ventricular septal rupture located at the basal inferoseptal segment with a left to right shunt



**Figure 1** Cardiac magnetic resonance late gadolinium enhancement images showing scar in inferior wall aneurysm.



**Video 3** CA showing a proximal eccentric significant lesion in left anterior descending, and right coronary artery branches enclosing an inferior wall aneurysm



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## Images in...

failure, angina, ventricular arrhythmia, systemic embolisation or ventricular rupture.<sup>2</sup> While ventricular pseudoaneurysm formation occurs when cardiac rupture is contained by adherent pericardium or scar tissue.<sup>3</sup> TTE is the first step in the diagnosis of mechanical complications following AMI, and CMR is the diagnostic modality of choice to confirm the diagnosis and plan for further interventions. Although rare, mechanical complications should always be considered in every ischaemic patient.<sup>4</sup> Despite the rareness of mechanical complications, this case showed two complications in the same setting even without a history of acute cardiac events, which might be related to silent AMI or AMI presenting with atypical symptoms in an old diabetic

patient. Although rare, mechanical complications should always be suspected in every ischaemic patient even if presenting with atypical symptoms.

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Case reports provide a valuable learning resource for the scientific community and can indicate areas of interest for future research. They should not be used in isolation to guide treatment choices or public health policy.

## Learning points

- ▶ Advances in reperfusion strategies have lowered the incidence of mechanical complications of acute myocardial infarction.
- ▶ Although rare, mechanical complications should always be suspected in every ischaemic patient even if presenting with atypical symptoms.
- ▶ Echocardiography is the first diagnostic modality for mechanical complications, while cardiac magnetic resonance is the diagnostic modality of choice to plan for further intervention.

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