

# A rare mimic of contained cardiac rupture: a diagnostic and therapeutic dilemma at a crucial time

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## DESCRIPTION

We present an interesting case of an elderly woman without diabetes, hypertension and dyslipidaemia, who presented to us with an evolved inferoposterior wall infarction and developed ventricular fibrillation and hypotension immediately after admission (figure 1). An emergency echocardiogram revealed a large collection in the pericardium which was thick and echolucent in consistency suggestive of clotted blood and was initially diagnosed as a contained cardiac rupture which was the most plausible diagnosis considering the circumstances of the clinical

presentation. Although the exact site of rupture into the pericardium could not be located (videos 1–4 and figure 2). There was no echocardiographic right ventricle collapse suggestive of pericardial tamponade despite the large collection and tachycardia. Pericardiocentesis was not attempted as the patient was not in tamponade and chances of rebleed into the pericardial space were high. The anticoagulants were withheld and supportive treatment was given keeping surgical standby.

The angiogram revealed double-vessel disease but the presence of a suspected 'rupture' made it difficult

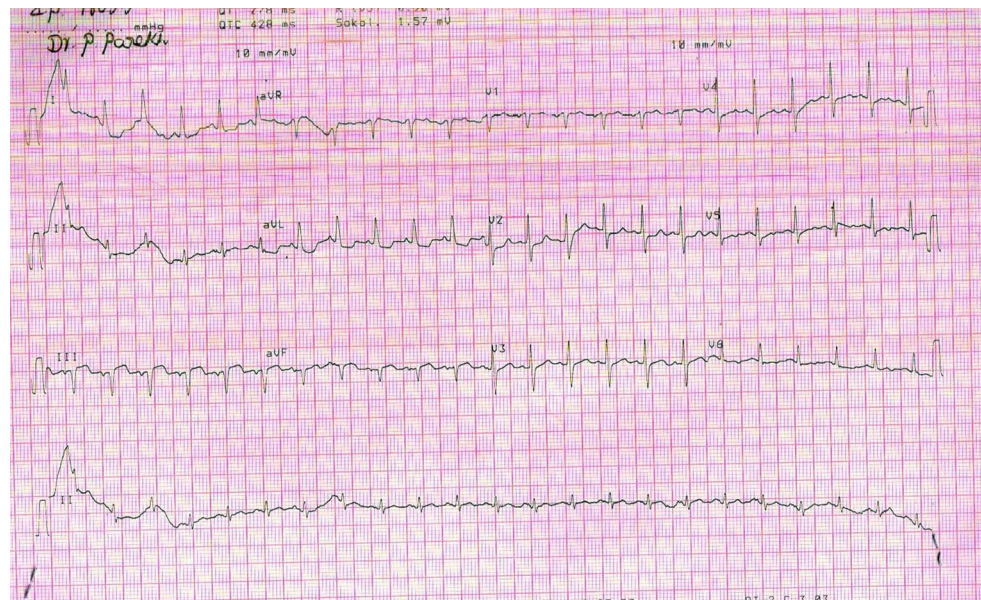
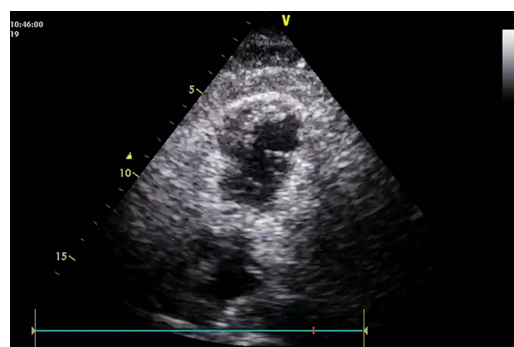
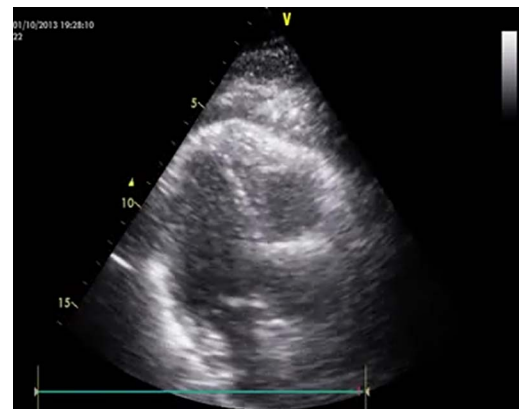


Figure 1 ECG of the patient showing evolved inferior wall myocardial infarction with sinus tachycardia.



Video 1 Modified apical four chambered view showing a thick pericardial collection which was initially as confused to be a contained cardiac rupture with clotted blood.



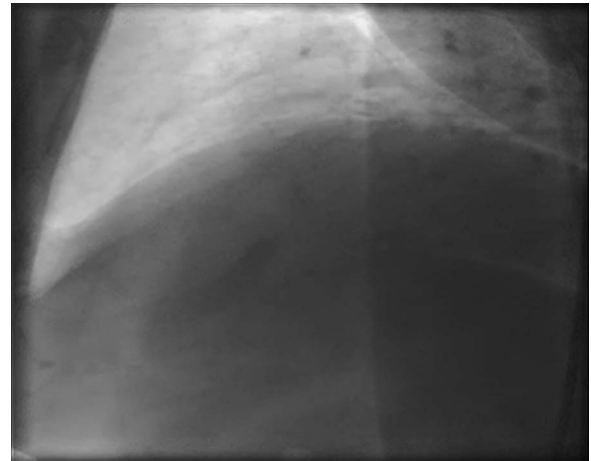
Video 2 Modified apical four chambered view showing a thick layer of pericardial fat.



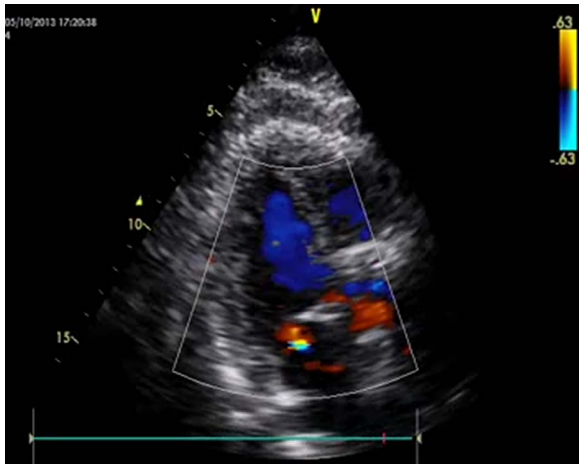
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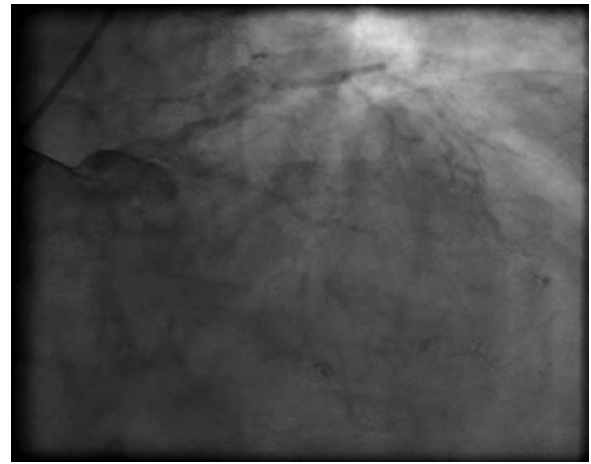
**Video 3** Modified apical two chambered view showing thick pericardial layer of fat.



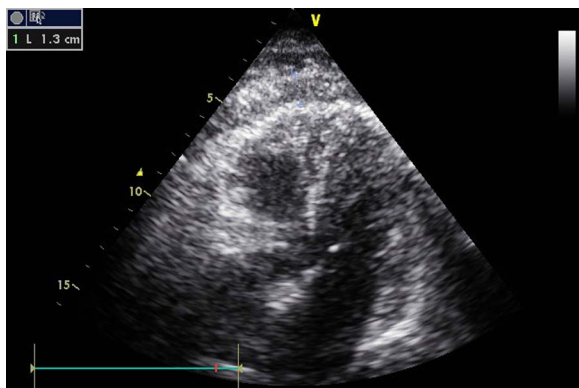
**Video 5** An angiographic film taken during the angiography showing the translucent shadow around the heart.



**Video 4** Modified apical four chambered view showing pericardial fat and proving the absence of severe valvular lesions.



**Video 6** Another fluoroscopic image of the heart showing the translucent shadow around the heart.



**Figure 2** A still image of the echocardiogram in four-chambered view showing a large pericardial collection around the heart.



**Figure 3** X-ray of the patient showing double cardiac shadow which is better seen around the right atrial margin.

to take the patient for percutaneous intervention (PCI) given the risk of rebleeding due to anticoagulants and high-dose antiplatelets during and after PCI. Fluoroscopy revealed a translucent layer of tissue around the heart unlike that expected in tamponade (videos 5–6). The X-ray showed duplicated cardiac border (figure 3). After fluoroscopy and after comparison with the initially unavailable old

echocardiograms in which the size and consistency of ‘the collection’ appeared constant, we concluded that probably an unusually thick layer of pericardial fat was mimicking pericardial collection.<sup>1–3</sup> The patient subsequently underwent successful PCI with stent implantation to the right coronary artery and the clinical parameters improved with medical management.

## Learning points

- ▶ Pericardial fat can sometimes be extraordinarily thick even in a non-diabetic and non-dyslipidemic patient with which it is more commonly associated<sup>3</sup> and can produce a confusing echocardiographic mimic of pericardial effusion.
- ▶ A previously undiagnosed presence of pericardial fat can mimic a contained cardiac rupture and in a patient with myocardial infarction they can pose a diagnostic and therapeutic dilemma which could dramatically alter the treatment strategies as happened in this case.
- ▶ Serial echocardiograms, fluoroscopy, comparison of old records and circumstantial evidence from the clinical presentation can form the key to the correct diagnosis and appropriate management.

**Competing interests** None.

**Patient consent** Obtained.

**Provenance and peer review** Not commissioned; externally peer reviewed.

## REFERENCES

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