

Images in Cardiovascular Disease



Left Ventricular Apical Pseudoaneurysm with Cardiac Tamponade

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Conflict of Interest

The authors have no financial conflicts of
interest.

A 68-year-old male presented with the history of a recent anterior wall myocardial infarction 1-month ago which was managed by streptokinase thrombolysis. The patient stabilised temporarily with medical management but complained of progressive dyspnoea on exertion for the past one week. The patient was a chronic smoker with the history of long-standing diabetes mellitus controlled on oral hypoglycaemic agents. Cardiovascular examination revealed a double apical impulse and auscultation identified a gallop rhythm (S3). Electrocardiogram was suggestive of recent anterior wall myocardial infarction (**Figure 1**).

Transthoracic echocardiography revealed a giant apical pseudoaneurysm with a narrow neck and thin wall (**Figure 2, Movie 1**). Colour Doppler evaluation revealed bidirectional shunt (**Figure 3, Movie 2, 3**). There was a large pericardial effusion with tamponade physiology as evidenced by right ventricular diastolic collapse. Left ventricular ejection fraction was 25%-30%. The patient was advised urgent surgery and pericardial drainage. Pseudoaneurysm excision followed by left ventricular remodelling with triple layered suture was performed. The patient had an uneventful post-operative period and was discharged on day 7.

Left ventricular aneurysm are of two basic types: true aneurysm and pseudoaneurysm.¹⁾ On echocardiography, pseudoaneurysm produces an echo-free space with a narrow neck that

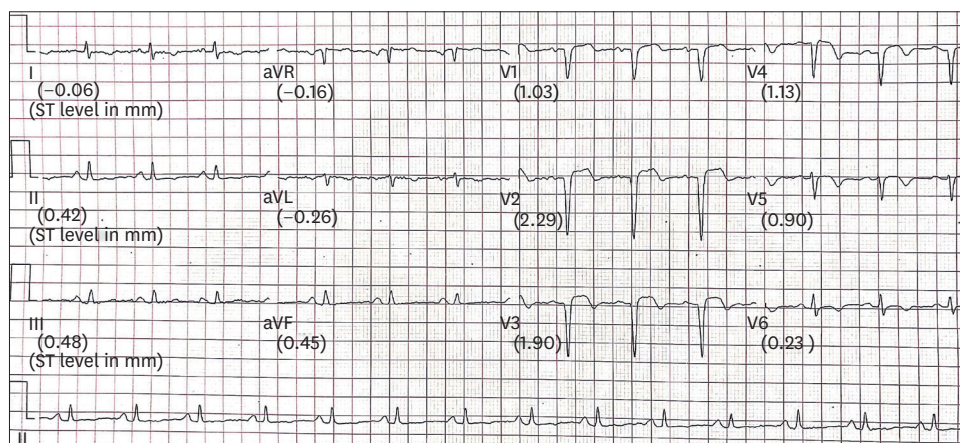


Figure 1. Electrocardiogram shows QS complexes in V1-V4 with persistent ST segment elevation and T wave inversion in precordial leads.

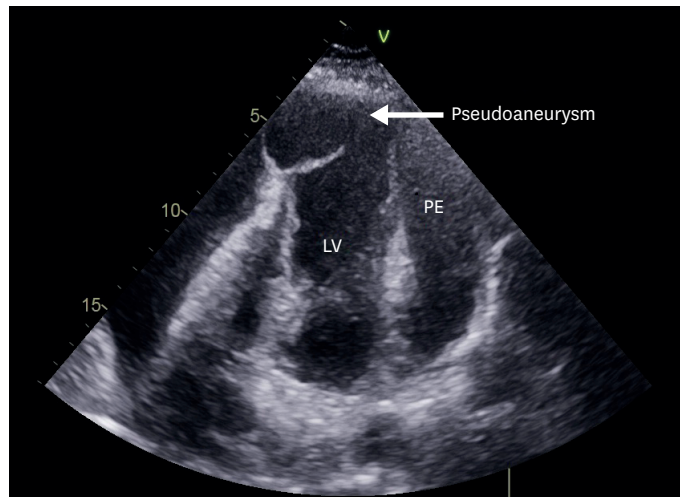


Figure 2. Modified apical 4 chambered view showing a large apical pseudoaneurysm originating from the LV with a narrow neck and thin walls. Massive PE can be seen surround the LV. LV: left ventricle, PE: pericardial effusion.

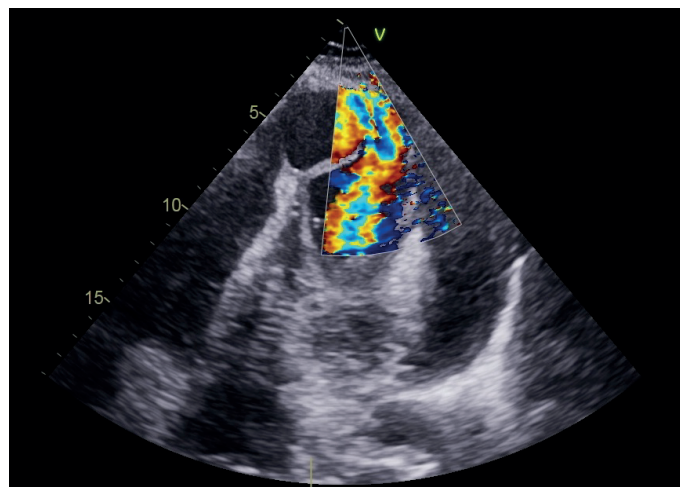


Figure 3. Modified apical 4 chambered view with colour Doppler demonstrating bidirectional shunt.

communicates with the left ventricular cavity. In contrast, true aneurysm results in local bulging and dilatation of the left ventricular wall with a wide neck.²⁾

Our patient is an unusual survivor of anterior wall myocardial resulting in apical free wall rupture leading to pericardial effusion and tamponade which was contained in time by pericardial inflammation and adhesions. Thrombolysis has been shown to increase the rate of free wall rupture³⁾ and this might be a contributing factor in our case. Urgent surgery, as performed, is necessary in order to prevent sudden death due to re-rupture of the contained rupture.⁴⁾

SUPPLEMENTARY MATERIALS

Movie 1

Modified apical 4 chambered view showing a large apical pseudoaneurysm originating from the left ventricle (LV) with a narrow neck and thin walls. Massive pericardial effusion can be seen surround the LV.

[Click here to view](#)

Movie 2

Modified apical 4 chambered view with colour Doppler demonstrating bidirectional shunt.

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Movie 3

Simultaneous view demonstrating the same pseudoaneurysm with and without colour Doppler.

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