Large basal inferior wall aneurysm with thrombus: a rare phenomenon revisited

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DESCRIPTION

An 80-year-old man, non-diabetic, non-hypertensive and smoker presented with history of shortness of breath on exertion for last 3–4 months. There was no history suggestive of an acute coronary event.

ECG revealed significant Q waves in inferior leads with minimally elevated, 'coved' ST segment.

Echocardiogram revealed hypokinesia of inferior wall and a large basal aneurysm (4.9×4.4 cm) with a thrombus in it (size ~2.6×4.4 cm; figures 1 and 2,

Figure 1 Apical two chamber view of transthoracic echocardiogram: an aneurysm of size 4.9×4.4 cm involving basal inferior wall with a thrombus (size ~2.6×4.4 cm).

Figure 2 Parasternal long axis view of transthoracic echocardiogram: an aneurysm involving basal inferior wall with a thrombus.

To cite: Singh S. *BMJ Case Reports* Published online: 13 December 2012
doi:10.1136/bcr-2012-007815

Video 1 Transthoracic echocardiogram depicting basal inferior wall aneurysm with thrombus.

and video 1). There was 'spontaneous echo contrast' in left ventricle (LV) near the aneurysm (video 2).

Basal inferior wall aneurysms constitute nearly 3% of all LV aneurysms, and large thrombus in these aneurysms is a rare phenomenon.¹ Besides atherosclerotic coronary artery disease, other uncommon causes of LV aneurysm include hypertrophic cardiomyopathy, arrhythmogenic right ventricular dysplasia, myocarditis, coronary artery fistula, chest trauma, infections like Chaga's disease and HIV, and connective tissue diseases like sarcoidosis and systemic lupus.² They present with congestive heart failure, ventricular arrhythmias or thrombo-embolic events. It is important to

Video 2 Transthoracic echocardiogram depicting basal inferior wall aneurysm with thrombus and spontaneous echo contrast.

differentiate between true and pseudoaneurysms (contained rupture). Early surgery is indicated while anticoagulation is contra-indicated (at least in initial phase) in patients with pseudoaneurysm. In case of true aneurysms, anticoagulation is given minimum for 3 months. Continuity of myocardium, presence of thrombus within the cavity, mouth size of more than half of the maximum diameter of aneurysm and evidence of myocardial thickening in the wall of aneurysm differentiate it from pseudoaneurysm.^{1 3}

In patients with poor acoustic windows, contrast echocardiogram is better than plain echocardiogram in identifying these aneurysms. Cardiac MRI (CMR) is most sensitive and specific investigation for identifying and assessing these aneurysms pre-operatively. It not only picks up posterior aneurysms much more readily (which are otherwise difficult to detect on transthoracic echocardiogram) but also provides important information about myocardial viability, ejection fraction, presence of thrombus and relationship of aneurysm to important structures like atrioventricular valves.^{3 4}

Ten-year survival rates of 46% and 90% have been reported in patients with and without symptoms, respectively.⁵

Learning points

- ▶ Aneurysms of basal inferior wall of left ventricle are rare and difficult to detect on transthoracic echocardiogram.
- ▶ In case of clinical suspicion, patient should be subjected to contrast echocardiogram or MR scan.
- ▶ Cardiac MRI is the best modality for preoperative assessment of left ventricle aneurysm.

Competing interests None.

Patient consent Obtained.

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