

Clinical Image

Broken Vessel in a Broken Heart

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CLINICAL IMAGES

A 69-year-old woman with no prior medical history presented with sudden onset of chest pain. The electrocardiogram (ECG) on admission revealed 1mm ST - elevation in leads II, III and a VF, and 2mm down -sloping ST - depression in V1 through V3

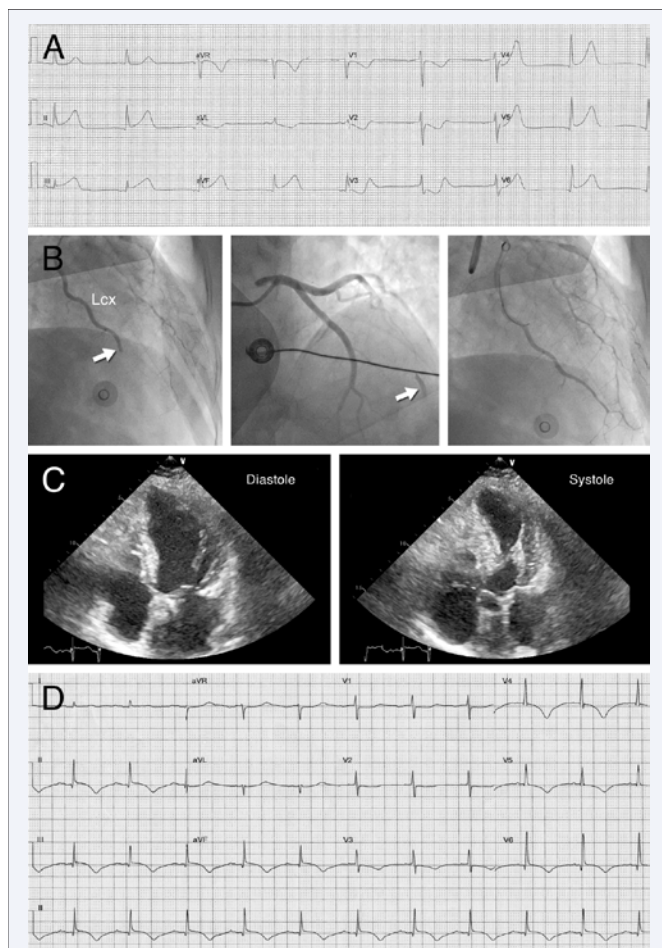


Figure 1 A. ECG on admission demonstrated ST - elevation in leads II, III and a VF, and 2mm down - sloping ST - depression in V1 through V3.

B. Coronary angiography showed total occlusion of distal left circumflex (LCx) secondary to spontaneous coronary artery dissection (arrow) which was treated with a drug - eluting stent.

C. Echocardiography showed akinesis of the mid to apical segments and hyper -contractility in the basal segments of the left ventricle consistent with left ventricular apical ballooning.

D. Repeat ECG showed global giant T - wave inversions with prolonged QTc interval.

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(Panel A). Coronary angiography showed total occlusion of distal left circumflex (LCx) secondary to spontaneous coronary artery dissection (arrow) which was treated with a Promus Premier 2.25 x 8mm (Panel B, movie I & II) [1]. Fourteen hours after stenting, she developed atrial fibrillation with a ventricular rate of 130 beat per minute which reverted back to sinus rhythm after intravenous amiodarone. Echocardiography showed akinesis of the mid to apical segments and hyper - contractility in the basal segments of the left ventricle resulting in a conspicuous left ventricular apical ballooning (Panel C, movie III). Follow - up ECG showed global giant T - wave inversions with prolonged QTc interval (Panel D). Repeat echocardiography a week later demonstrated normalisation of systolic function with hypokinesia in the apical anterior and lateral segments. Spontaneous coronary artery dissection (SCAD) is under - diagnosed and is an important cause of myocardial infarction (MI) in women. Takotsubo cardiomyopathy (TC), also known as apical ballooning syndrome is a transient stress - related cardiomyopathy mimicking MI in the absence of obstructive coronary disease which tends to occur in postmenopausal women after a stressful event. The acute ischaemia caused by the LCx SCAD in this case acts as a physical stressor resulting in TC. Hence post - ischaemic myocardial stunning from SCAD may induce TC, and SCAD - induced MI may trigger rather than exclude TC.

REFERENCES

1. Y-Hassan S, Böhm F. The causal link between spontaneous coronary artery dissection and Takotsubo syndrome: A case presented with both conditions. *Int J Cardiol.* 2016; 203: 828-831.