**Clinical Image**

**Broken Vessel in a Broken Heart**

Jen-Li Looi*, Zhong C, van Pelt N, and Patrick Kay I

Department of Cardiology, Middlemore Hospital, New Zealand

**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 aVF, and 2mm down-sloping ST-depression in V1 through V3 (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**