

CASE REPORT

Apical ballooning in relatives

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Apical ballooning of the left ventricle was first introduced as takotsubo-like left ventricular dysfunction in 1990 by Satoh and colleagues. The syndrome is characterised by reversible extensive akinesia of the apical and mid-portions of the left ventricle with hypercontraction of the basal segment. For the first time two sisters with this syndrome are reported, suggesting a possible genetic aetiology.

Apical ballooning of the left ventricle was first introduced as takotsubo-like left ventricular dysfunction in 1990 by Satoh and colleagues.¹ The syndrome is characterised by reversible extensive akinesia of the apical and mid-portions of the left ventricle with hypercontraction of the basal segment. We report for the first time two sisters with this syndrome suggesting a possible genetic aetiology.

CASE PRESENTATIONS

Case 1

A 44 year old woman with a history of chronic obstructive pulmonary disease and depression presented to the emergency department with acute thoracic pain and dyspnoea after an argument with her husband. The ECG showed tall T waves in the anterior leads. Troponin I, creatine kinase, and creatine kinase MB concentrations were only slightly increased. Echocardiography showed extensive apical akinesia and a severely reduced left ventricular ejection fraction (35%). Coronary angiography showed normal coronary arteries. The patient had complete functional recovery with normalisation of the left ventricular systolic function on echocardiographic evaluation three weeks later.

Case 2

A 52 year old woman without any significant medical history was admitted with sudden dyspnoea and orthopnoea after physical exercise. She had no thoracic pain. The ECG showed tall T waves in the anterior leads. The troponin I concentration was only slightly elevated and echocardiography showed severely decreased left ventricular systolic function due to anteroapical akinesia. Coronary angiography showed normal coronary arteries. The systolic function gradually improved and a transthoracic echocardiography showed normalisation of the regional contractility on day 7.

DISCUSSION

Apical ballooning of the left ventricle is a syndrome that consists of acute onset of reversible balloon-like left ventricular wall motion abnormality of the apex, hypercontraction of the basal segment, and acute myocardial infarction on ECG without significant stenosis on coronary angiography. The diagnostic criteria of this syndrome were reported by Abe and colleagues.² The syndrome is often associated with a physical or emotional stress factor, chest pain, and only a limited release of cardiac markers. Apical ballooning has been described in Japanese and white patients, most of whom are women.^{3 4} The precise aetiology is unclear. Various pathophysiological mechanisms have been hypothesised such as multiple vasospastic angina and enhanced sympathetic activity secondary to internal (emotional) and external stresses (trauma, surgical procedure, etc).

We report on two sisters who were admitted to our hospital with apical ballooning of the left ventricle. To our knowledge this is the first time that this syndrome is described in related patients. The occurrence of this syndrome in two sisters as presented in this case report may point to a genetic aetiology.

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