IMAGES IN CARDIOLOGY

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Novel imaging techniques reveal the aetiology of a pseudoinfarction ECG pattern

A 64-year-old patient complaining of chest discomfort with an ECG compatible to myocardial infarction (panel A) was admitted to the cardiology department with the diagnosis of acute coronary syndrome. Myocardial enzymes were within normal range throughout hospitalisation and the ECG remained unaltered without the typical evolution of myocardial infarction.

Transthoracic echocardiography showed a large mass in the right ventricle, attached to the lateral, apical and septal wall (panel C). Colour Doppler detected blood flow within the mass (panel D). Left ventricular function and flow velocity in the distal left anterior descending coronary artery (panel B) were both normal.

The novelty of this case is that we used contrast echocardiography (real time perfusion image with low mechanical index) to investigate the composition of the morphoma (panel E). The contrast agent was uniformly taken up by the mass, indicating the presence of micro-circulation and ruling out the diagnosis of thrombus. Furthermore, it was uniformly distributed in the infiltrated myocardial walls, excluding myocardial necrosis.

Magnetic resonance imaging confirmed the echocardiographic findings, and additionally revealed infiltration of the subepicardial part of the left ventricular apex (panel F).

A metastatic cardiac sarcoma was diagnosed, after biopsy of a tumour in the right shank.

This case presents a new diagnostic application of contrast echocardiography in assessing the composition of intracardiac masses. This technique may easily solve diagnostic and therapeutic problems: it is quick, non-invasive, and can be available even in the emergency department of a general hospital.

D Leftheriotis, I Ikonomidis, E K Iliodromitis, D Th Kremastinos
dionle1@otenet.gr