Interactive case report

A 28 year old postpartum woman with right sided chest discomfort: case outcome

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Four weeks ago we described the case of Mrs Patel, a 28 year old postpartum woman with atypical right sided chest pain (18 February *BMJ* 2006;332:406). A treadmill exercise test was non-diagnostic but stress echocardiography showed reduced systolic wall thickening (25 February *BMJ* 2006;332:471).

Coronary angiography showed she had a critical lesion in the proximal left anterior descending artery with an associated thrombus (fig 1). The circumflex and right coronary artery had plaque disease but no flow limiting lesions. She had coronary angioplasty, and a drug eluting stent was implanted at the stenosis in the proximal left anterior descending artery with excellent results (fig 2). In addition to aspirin, levothyroxine, and metformin, she was started on clopidogrel, atenolol, and low dose atorvastatin. She was monitored overnight and discharged the following day. She remained well with no further episodes of chest pain for six months.

However, six months later she presented again with right sided discomfort but no clear precipitating factor. Exercise stress echocardiography was organised. She exercised for seven minutes before stopping because of breathlessness after achieving the target heart rate. Echocardiography showed increased systolic wall thickening of all myocardial segments with a reduced left ventricular cavity. The changes were normal and she was reassured accordingly. Her chest pain has since settled.

Discussion

This case highlights the importance of ruling out coronary artery disease in patients such as Mrs Patel who have an intermediate risk of coronary artery disease. Exercise electrocardiography is the most widely used technique for the diagnosis and risk stratification of patients with suspected or known coronary artery disease. However, the exercise test is truly diagnostic in only 40% of patients.¹

Stress echocardiography is a reliable and cost effective method for diagnosis and risk assessment of patients with suspected or known coronary artery disease. The hallmark of myocardial ischaemia during stress echocardiography is reduced systolic wall thickening, which precedes the occurrence of chest pain and ST-T changes. In patients with normal results on resting and exercise echocardiography, mortality has been shown to be less than 1% a year.^{2 3}

Competing interests: None declared.

- 1 Detrano R, Gianrossi R, Froelicher V. The diagnostic accuracy of the exercise electrocardiogram: a meta-analysis of 22 years of research. *Prog Cardiovasc Dis* 1989;32:173-206.
- 2 Marwick TH, Case C, Vasey C, Allen S, Short L, Thomas JD. Prediction of mortality by exercise echocardiography. A strategy for combination with the Duke treadmill score. *Circulation* 2001;29:2566-71.
- 3 Senior R, Monaghan M, Becher H, Mayet J, Nihoyannopoulos P. Stress echocardiography for the diagnosis and risk stratification of patients with suspected or known coronary artery disease: a critical appraisal. *Heart* 2005;91:427-36.

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This is the final part of a three part case report, which describes the outcome and summarises the comments made by readers during the case presentation. Further responses are welcome through bmj.com

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Fig 1 Coronary angiography showing critical stenosis of proximal left anterior descending artery (arrow)

Fig 2 Mrs Patel's coronary angiogram after angioplasty and insertion of stent