EDITORIAL

Safety and efficacy of physiologist-led dobutamine stress echocardiography

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Dear Sir,

Dr Porter in his editorial comment (1) on a physiologist-led stress echo service (2) acknowledges that the service was safe in terms of adverse effects but is concerned that 'the *interpretation* of the study was also done by the cardiac physiologist'. He reminds us 'that the biggest danger associated with dobutamine stress echocardiography is in misinterpreting the data obtained…'.

Did Ntoskas *et al*. (2) really misinterpret the data? Dr Porter states that 7 patients with negative studies returned with significant complications due to multivessel coronary artery disease. In fact, there were eight patients with negative stress echocardiograms who subsequently had coronary angiography showing coronary disease. However, there were only 3 (1.3%) with events over a period of approximately 2 years giving an event rate 0.8% p.a. The other patients had coronary angiography either before elective valve surgery or because of continuing stable angina without an acute event. There were no deaths. In the literature an event rate of 0.4–0.9% p.a. for patients with a negative stress echocardiogram is quoted based on a meta-analysis of 11,000 patients (3). However, the event rate is higher in subgroups with diabetes or hypertension (4) and is 1.9% p.a. for patients with a negative stress echocardiogram despite known severe coronary disease (5). The event rate described by Ntoskas *et al*. is therefore as expected from the literature or if anything slightly lower.

Is it wrong, as Dr Porter believes, for a physiologist to interpret a study? He states, reasonably, that 150 studies should be performed and 300 interpreted before competency can be expected. Training is clearly of the utmost importance as is continuing quality assurance including audits as performed by Ntoskas *et al*. (2). It is not clear why a physiologist/scientist should not be at least as able as a cardiologist to undertake this training. This misapprehension may arise from a difference in professional status between sonographers in the US and physiologist/scientists in the UK who often run echocardiography services and provide scientific advice or interpretations to cardiology colleagues. Perceived differences in status are expected to diminish as 'Modernising Scientific Careers' brings degree-level entry to training leading to either an MSc or PhD in Cardiac Science and an expanding career grade of consultant clinical scientist (6, 7). The UK stress accreditation process recently introduced by the British Society of Echocardiography is expected to improve the safety and interpretation of stress echocardiography for physiologist/scientists and cardiologists alike.

This is not to ignore the difficulties of setting up a physiologist/scientist-led service. It is necessary to obtain patient-specific directives to enable drug administration including transpulmonary contrast, which still need to be prescribed by a cardiologist or other physician. Furthermore, an appropriately trained physician needs to be close at hand in the event of a major complication. This underlines the modern norm of working as a multidisciplinary team. What test should be deployed and how to interpret the stress test result in the clinical context remains the role of the cardiologist. However, the administration and reporting of the test can be performed by a physiologist/scientist or a cardiologist provided both are adequately trained and supported. We congratulate Ntoskas *et al*. on their innovative study.

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