

Table 1

Average f/u time (months)	17.7±8
Females (%)	66.3
Average Age (years)	61.9±10
Smokers/ex-smokers (%)	34.7
Hypertensives (%)	44.6
Hyperlipidaemics (%)	30.7
Diabetics (%)	12.9
RACPC referrals (%)	48.5
DSE (%)	60.4
Average age DSE vs bicycle (Years)	64.9±10 vs 57.5±9.2

Introduction Stress echocardiography (SE) is a useful tool for the assessment of patients with chest pain (CP) to assess whether there may be underlying coronary artery disease (CAD). Recent NICE guidelines direct the treatment of patients with stable CP making increased use of functional imaging such as SE. Macclesfield District General Hospital (MDGH) serves an ageing population and for a number of years SE has been used to assess patients with CP. A real-life, retrospective study was undertaken to assess results and consider the latest NICE guidelines.

Methods 101 patients who attended for SE to investigate CP query CAD were retrospectively studied between 1 January 2010–31 December 2011 (table 1). Patients were referred by a Cardiologist or came through rapid access chest pain clinic at MDGH. SE at MDGH is carried out pharmacologically by Dobutamine or physiologically by supine bicycle.

Results Overall 77% of tests were negative, 6% inconclusive and 17% positive. The negative predictive value (NPV) for cardiac events was 100% year one and 98.7% year two. 22% of patients went on for further testing by angiogram to assess for CAD. The positive predictive value for abnormal coronaries (>50% stenosis) was 66.7% and significant lesions (>70% stenosis) 41.7% leading to three successful revascularisations.

NICE risk scoring showed a steady increase in positive results from 0% at risk <30, 13% 30–60, 15.4% 61–90 and 70% 91–100. Over 55% of patients at risk >60 were automatically assigned due to their age been >70 years old, in the 61–90 class <25% were shown to have a positive or inconclusive test, increasing to 70% in the >90 group (figure 1).

Discussion SE at MDGH is providing useful results. NPV is excellent and inline with existing studies as a reliable indicator of low risk for short term cardiac events. Whilst results from angiograms were acceptable there is room for improvement. However by the nature of echocardiography there may be grey areas with image quality critical to analysis. The study design also meant only

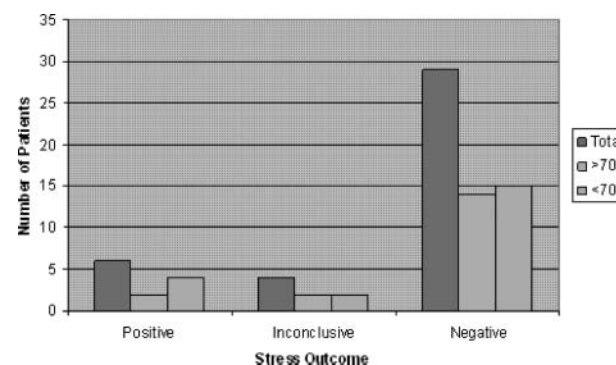


Figure 1 Outcome of stress Echocardiogram according to NICE risk scanning in the 61–90 class.

patients thought to clinically benefit from having an angiogram had one.

With a full range of NICE risk classifications all patients were managed appropriately with at risk patients highlighted. Whilst this is reassuring it appears there is room for increased frontline use of SE especially in patients assigned to 61–90 or >90 group. What the results show, especially in the 61–90 group, is patients could be saved an invasive test if given the option of functional imaging as the front-line test. This is especially true of patients >70 years old as they are automatically assigned to these groups by current risk stratification purely by age irrespective of other risk factors. Full assessment of this trend was however limited by a restricted sample.

Conclusions Stress echocardiography is an important service at MDGH providing reassurance in patients with a negative test that they are low risk for immediate cardiac events. NICE guidance should increase use of front-line functional imaging, such as stress echocardiography, to prevent unnecessary invasive procedures, especially true in patients over 70 years old.