Cost-effectiveness of functional cardiac testing in the diagnosis and management of coronary artery disease: a randomised controlled trial. The CECaT trial


Record Status
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Citation

Authors' objectives
"The objectives of this trial were to assess the following: Acceptability and feasibility of functional tests as a gateway to angiography for the management of coronary artery disease (CAD) Ability of diagnostic strategies to identify patients who should undergo revascularisation Patient outcomes in each diagnostic strategy The most cost-effective diagnostic strategy for patients with suspected or known CAD." (from executive summary)

Authors' conclusions
Conclusions Between 20 and 25% of patients can avoid invasive testing using functional testing as a gateway to angiography without substantial effects on outcomes. The SPECT strategy was as useful as angiography in identifying patients who should undergo revascularisation. The additional cost for the SPECT strategy was not significant and would be reduced further by restricting the rest test to patients who have a positive stress test.

MRI had the largest number of test failures and, in this study, had the least practical use in screening patients with suspected CAD, although it had similar outcomes to stress echo. This technology and decision rules for its interpretation are still evolving.

Stress echo patients had a 10% test failure rate, significantly shorter total exercise time and time to angina at 6 months post-treatment, and a greater number of adverse events, leading to significantly higher costs. Much of the excess costs were attributable to a small number of patients with particularly difficult clinical courses, unrelated to the diagnostic strategy. Given the level of skill required for stress echo, it may be best to reserve this test for those who have a contraindication to SPECT and are unable or unwilling to have MRI.

Implications for the NHS Functional testing has a place in the diagnostic pathway for the assessment of chest pain in an outpatient population, avoiding invasive tests in a significant proportion of patients. The choice of test may be determined by local expertise and evolution of MRI. In this study, SPECT had the best outcomes, reflecting the greater experience of using this technique, although most differences between the tests were minor and there is a place for all three.

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