



FOCUS ON RESEARCH

CT coronary angiography in patients with suspected angina due to coronary heart disease (SCOT-HEART): an open-label, parallel-group, multicentre trial

Researchers

The SCOT HEART Trialists

Chief Investigator

Professor David Newby

Aim

To evaluate the added value of undertaking a computed tomography (CT) heart scan in patients attending a heart clinic with chest pain.

Project Outline/Methodology

This trial recruited 4,146 patients from 12 sites across Scotland. Patients were randomly assigned (1:1) to standard care plus a CT heart scan or to standard care alone. The primary purpose of the study to see if the CT heart scan changed the number of patients diagnosed with angina. We also explored the effect of the CT scan on whether patients had heart bypass and "stenting" procedures, heart attacks or died. These events were identified through the Information and Statistics Division of the National Health Service (NHS) Scotland and, when appropriate, confirmed by review of the patients' health records.

Key Results

The CT heart scan clarified the diagnosis of angina in 1 in 4 patients, reduced the need for further tests in 1 in 6, changed treatment (stopped and started drugs) in 1 in 4 and led to a small apparent increase in the use of bypass surgery and stents. These changes were associated with a fall in the subsequent rates of having or dying from a heart attack over the first 1-2 years.

Conclusions

In patients presenting with suspected angina, a CT heart scan clarifies the diagnosis and leads to major alterations in investigations and treatments. This is associated with an apparent fall in the risk of a subsequent heart attacks but this needs to be confirmed by further long-term follow up.

What does this study add to the field?

CT heart scans have been shown to identify coronary heart disease. However, previous studies have highlighted several areas that need further research and in particular the need to evaluate the usefulness of CT heart scans in patients with suspected angina. In 2010, the National Institute for Health and Care Excellence (NICE) outlined recommendations for the assessment and investigation of recent onset chest pain or discomfort of suspected heart origin and specifically called for research into how effective CT heart scans were in the diagnosis of angina.

The SCOT-HEART trial aimed to address these issues by investigating the impact of a CT heart scan on the diagnosis, management and outcome of patients referred to the cardiology clinic with suspected angina. In a large pragmatic multicentre randomised controlled trial, we have provided new information on the impact of CT heart scans on the diagnosis, management and outcome of patients referred to the cardiology clinic with suspected angina.

Implications for Practice or Policy

We have now established that the addition of a CT heart scan to standard clinical care markedly clarifies the diagnosis of angina. This reduces the need for further stress testing, increases the more appropriate use of heart bypass and stenting, and results in more focused treatment regimes which are associated with a reduction in heart attacks. This will transform how patients are managed in the cardiology clinic across the UK and the world.

Where to next?

We intend to continue to follow-up the SCOT-HEART patients and will endeavour to repeat the analysis when there will be 5 years of follow-up.

Further details from:

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