High-sensitivity troponin assays for the early rule-out or diagnosis of acute myocardial infarction in people with acute chest pain: a systematic review and cost-effectiveness analysis

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Declared competing interests of authors: none

Published June 2015
DOI: 10.3310/hta19440

Plain English summary

hs-cTn assays for acute myocardial infarction in people with acute chest pain

Health Technology Assessment 2015; Vol. 19: No. 44
DOI: 10.3310/hta19440

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Plain English summary

Heart disease is a leading cause of death in the UK, with myocardial infarction (MI) (heart attack) accounting for approximately 5% of all deaths recorded in 2011. Many people attend hospital with chest pain and suspected MI; chest pain has been reported as the most common cause of hospital admissions in the UK, and 2011–12 statistics showed that it accounted for approximately 5% of all emergency admissions. It is important to diagnose people who are suspected of having a MI as early as possible in order to ensure quick and effective treatment. However, only around 20% of emergency admissions for chest pain will actually have a MI and there are many other possible causes of chest pain (e.g. gastro-oesophageal disorders, muscle pain, anxiety or stable ischaemic heart disease). Tests that can quickly tell which patients do not have MI could therefore avoid unnecessary hospital admissions and anxiety for many people.

This assessment aimed to determine the clinical effectiveness and cost-effectiveness of high-sensitivity troponin (Tn) tests, used as single tests or repeated over a short time, for diagnosing or ruling out MI in people who present to hospital with chest pain. We found that high-sensitivity Tn tests may be able to rule out MI within the 4-hour UK NHS emergency department target. Health-economic analyses indicated that high-sensitivity tests may be cost-effective compared with standard Tn tests, which require repeat testing at 10–12 hours.
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This report

The research reported in this issue of the journal was commissioned and funded by the HTA programme on behalf of NICE as project number 13/51/01. The protocol was agreed in September 2013. The assessment report began editorial review in April 2014 and was accepted for publication in October 2014. The authors have been wholly responsible for all data collection, analysis and interpretation, and for writing up their work. The HTA editors and publisher have tried to ensure the accuracy of the authors’ report and would like to thank the reviewers for their constructive comments on the draft document. However, they do not accept liability for damages or losses arising from material published in this report.

This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the HTA programme or the Department of Health.

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