Selecting pregnant or postpartum women with suspected pulmonary embolism for diagnostic imaging: the DiPEP diagnostic study with decision-analysis modelling

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Declared competing interests of authors: Steve Goodacre is the chairperson of the National Institute for Health Research (NIHR) Health Technology Assessment (HTA) programme Clinical Evaluation and Trials Board and a member of the HTA Funding Boards Policy Group. Fiona Lecky is a member of the NIHR HTA Emergency and Hospital Care Panel. Catherine Nelson-Piercy has received personal fees from Leo Pharma (Leo Pharma A/S, Copenhagen, Denmark) and personal fees from Sanofi-Aventis (Sanofi SA, Paris, France) outside the submitted work.

Published August 2018
DOI: 10.3310/hta22470

Plain English summary

The DiPEP diagnostic study with decision-analysis modelling

Health Technology Assessment 2018; Vol. 22: No. 47
DOI: 10.3310/hta22470

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A blood clot in the lung is a potentially fatal complication of pregnancy that can be difficult to diagnose. Symptoms that suggest a blood clot, such as chest pain or breathlessness, are common in pregnancy. Diagnosis usually requires a scan that involves giving a small dose of radiation to the mother and possibly to the baby.

A clinical decision rule uses information from the woman’s medical history and examination to estimate the risk that she has a blood clot. Blood tests that are abnormal in people with blood clots can perform a similar role. We wanted to find out whether or not clinical decision rules or blood tests could be used to decide which women with a suspected blood clot should have a scan.

We collected information from 181 pregnant or recently pregnant women with blood clots in their lungs and 259 women without blood clots who had been investigated in hospital for a suspected blood clot. We also collected blood samples from 36 women with blood clots in their lungs or legs, and 247 with no blood clot. We found that the blood clots were very difficult to diagnose without a scan. None of the clinical decision rules or blood tests was able to reliably determine which women had a blood clot. The economic analysis showed that scanning every woman with a suspected blood clot was a worthwhile use of NHS resources. This is because the risks of scanning are very small, whereas the benefits of detecting and treating blood clots are very large.

Clinical decision rules and blood tests should not be used to select which women with a suspected blood clot in pregnancy have a scan. Future research needs to develop new ways of diagnosing blood clots in pregnancy.
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This report

The research reported in this issue of the journal was funded by the HTA programme as project number 13/21/01. The contractual start date was in October 2014. The draft report began editorial review in June 2017 and was accepted for publication in November 2017. 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.

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