

Title:	Antenatal screening for heritable thrombophilia – August 2002
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Aim

Screening for heritable thrombophilia, antenatally, in unselected and high-risk women (with a history of obstetric complications) was assessed for safety, effectiveness and cost effectiveness by systematic literature review.

Conclusions and Results

There were no studies available that compared a group of women screened antenatally for heritable thrombophilia with a group of unscreened women.

Prevalence and risks associated with heritable thrombophilia. Heterozygous factor V Leiden (FVL), prothrombin and homozygous MTHFR C677T mutations are relatively common in unselected women, while protein C, S or antithrombin deficiencies are considered rare. Limited evidence suggests that unselected FVL carriers are 8 times more likely to suffer venous thromboembolism during pregnancy than non-carriers - an absolute increase in risk of only 1%. They may also have a five-fold increased risk of fetal loss but this has yet to be confirmed by higher quality studies. There was no association between either FVL or homozygous MTHFR and intrauterine growth restriction. There were no good quality data available assessing outcomes in high-risk women.

Diagnostic accuracy of the tests. High-level evidence on test accuracy was lacking. It is clear, however, that protein S deficiency should not be investigated antenatally due to fluctuating levels of this protein in normal pregnancy and the likelihood of inaccurate diagnosis.

Safety and effectiveness of prophylaxis. There was no substantive evidence that indicated that prophylaxis is effective at preventing or reducing maternal adverse events in high risk pregnant women with thrombophilia. Limited level III-2 evidence suggests that heparinisation of these women will reduce fetal loss at clinically significant levels. The data on the impact of prophylaxis on perinatal mortality, gestational age at delivery and intrauterine growth restriction were inconclusive, although improvements were generally observed in the prophylaxed groups. Good quality, although limited, evidence revealed that low-molecular-weight heparinisation was associated with nearly four times the risk of increased blood loss (>600 ml) during delivery and of postpartum anaemia. There were no good quality data on prophylaxis in unselected women.

Cost effectiveness. It was not possible to analyse the costs and consequences associated with antenatal screening for heritable thrombophilia because of a lack of epidemiological or primary research evidence.

Recommendations

On the strength of evidence pertaining to antenatal screening for heritable thrombophilia, public funding should not be supported for systematic screening of all pregnant women. Since there is currently insufficient evidence pertaining to high-risk women with obstetric indications, selective antenatal screening should not receive public funding at this time. This recommendation will be reviewed in two years. The Minister for Health and Ageing accepted this recommendation on 16 October 2002.

Methods

Medline, Embase, Current Contents, Cochrane Library, SSCI, ProceedingsFirst, internet databases and sites, and reference lists were searched from 1966-2001. Study selection followed a protocol and varied according to the research question being addressed. The evidence was assessed and classified using the dimensions of evidence defined by the National Health and Medical Research Council. Study quality was appraised using standard checklists and the clinical importance and relevance of the benefit (or harm) was also assessed.

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