The AdmissionTest: of value in 'low risk' labour?

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Background
The admission test is a short recording of the fetal heart rate immediately after admission to the labour ward. The main justification for its use is that the uterine contractions of labour act as a functional stress on the placental circulation, and an abnormal tracing might indicate a deficiency and hence identify potential fetal compromise. Furthermore, a normal admission test would offer reassurance. There is an alternative view. In pregnancies that have been uncomplicated prior to the onset of labour, the incidence of intrapartum fetal compromise is typically very low; thus the labour admission test represents unnecessary intervention. Previous descriptive studies have suggested that the admission CTG may have value in identifying the compromised fetus (1-3). These uncontrolled studies however do not allow conclusions to be drawn about the clinical usefulness or indeed clinical risks of the admission test. The objective of this RCT was therefore to compare the effect of a labour admission test against Doppler auscultation of the fetal heart on neonatal outcome and levels of obstetric intervention in a low risk obstetric population.

Methods
Pregnant women with no obstetric complications that warranted continuous fetal heart rate monitoring in labour were randomised to receive either a cardiotocograph or a short period of Doppler auscultation of the fetal heart when they were admitted in spontaneous uncomplicated labour. The primary outcome measure was umbilical arterial metabolic acidosis. Secondary outcome measures included other assessment measures of condition at birth and obstetric intervention.

Results
In confirmed low risk women, comparison between the two randomisation groups showed no significant differences in the incidence of metabolic acidosis or for any of the other neonatal outcome measures. However, compared with having Doppler auscultation, women who had an admission test were significantly more likely to have continuous fetal heart rate monitoring in labour (Odds Ratio 1.49 95% Confidence Interval 1.26 to 1.76), augmentation of labour (Odds Ratio 1.26: 95% Confidence Interval 1.02 to 1.56), epidural analgesia (Odds Ratio 1.33: 95% Confidence Interval 1.10 to 1.61) and require operative delivery (Odds Ratio 1.36: 95% Confidence Interval 1.12 to 1.65).

Conclusion
Compared with Doppler auscultation of the fetal heart, the labour admission test in low risk women does not have any demonstrable benefit on neonatal outcome as assessed by the presence of metabolic acidosis at delivery. Its use results in increased obstetric intervention, including operative delivery.

References

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