

Cost-effectiveness of cardiotocography plus ST analysis of the fetal electrocardiogram compared with cardiotocography only.

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OBJECTIVE: To assess the cost-effectiveness of addition of ST analysis of the fetal electrocardiogram (ECG; STAN) to cardiotocography (CTG) for fetal surveillance during labor compared with CTG only.

DESIGN: Cost-effectiveness analysis based on a randomized clinical trial on ST analysis of the fetal ECG.

SETTING: Obstetric departments of three academic and six general hospitals in The Netherlands. Population. Laboring women with a singleton high-risk pregnancy, a **fetus** in cephalic presentation, a gestational age >36 weeks and an indication for internal electronic **fetal** monitoring.

METHODS: A trial-based cost-effectiveness analysis was performed from a health-care provider perspective.

MAIN OUTCOME MEASURES: Primary health outcome was the incidence of metabolic acidosis measured in the umbilical artery. Direct medical costs were estimated from start of labor to childbirth. Cost-effectiveness was expressed as costs to prevent one case of metabolic acidosis.

RESULTS: The incidence of metabolic acidosis was 0.7% in the ST-analysis group and 1.0% in the CTG-only group (relative risk 0.70; 95% confidence interval 0.38-1.28). Per delivery, the mean costs per patient of CTG plus ST analysis (n= 2 827) were €1,345 vs. €1,316 for CTG only (n= 2 840), with a mean difference of €29 (95% confidence interval -€ to €77) until childbirth. The incremental costs of ST analysis to prevent one case of metabolic acidosis were € 667.

CONCLUSIONS: The additional costs of monitoring by ST analysis of the fetal ECG are very limited when compared with monitoring by CTG only and very low compared with the total costs of delivery.