

The long-term cost-effectiveness of fetal monitoring during labour: a comparison of cardiotocography complemented with ST analysis versus cardiotocography alone.

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OBJECTIVE: To assess the cost-effectiveness of the use of cardiotocography (CTG) complemented with fetal electrocardiography and ST analysis compared with the use of CTG alone in term deliveries when a decision has been made to use fetal monitoring with a scalp electrode.

DESIGN: A cost-effectiveness analysis based on a probabilistic decision model incorporating relevant strategies and lifelong outcomes.

SETTING: Maternity wards in Sweden.

POPULATION: Women with term fetuses after a clinical decision had been made to apply a fetal scalp electrode for internal CTG.

METHODS: A decision model was used to compare the costs and effects of two different treatment strategies. Baseline estimates were derived from the literature. Discounted costs and quality-adjusted life years (QALYs) were simulated over a lifetime horizon using a probabilistic model.

MAIN OUTCOME MEASURES: QALYs, incremental costs, and cost per QALY gained expressed as incremental cost-effectiveness ratio (ICER).

RESULTS: The analysis found an incremental effect of 0.005 QALYs for ST analysis compared with CTG; the ST analysis strategy was also moreover associated with a euro56 decrease in costs, thus dominating the CTG strategy. The probability that ST analysis is cost-effective in comparison with CTG is high, irrespective of the willingness-to-pay value for a QALY.

CONCLUSIONS: Compared with CTG alone, ST analysis is cost-effective when used in term high-risk deliveries in which there is a need for internal fetal monitoring.