

ELECTROCARDIOGRAM ST ANALYSIS DURING LABOUR: A SYSTEMATIC REVIEW AND META-ANALYSIS OF RANDOMIZED CONTROLLED TRIALS.

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ABSTRACT

OBJECTIVE:

To compare the effectiveness of cardiotocography plus ST analysis with cardiotocography alone during labor.

DATA SOURCES:

Randomized controlled trials were identified by searching electronic databases.

METHODS OF STUDY SELECTION:

We included all randomized controlled trials comparing intrapartum fetal monitoring with cardiotocography plus ST analysis with cardiotocography alone. The primary outcome (ie, perinatal composite outcome) was a composite of intrapartum fetal death, neonatal death, Apgar score 3 or less at 5 minutes, neonatal seizure, metabolic acidosis (defined as umbilical arterial pH 7.05 or less, and extracellular fluid base deficit 12 mmol/L or greater), intubation for ventilation at delivery, or neonatal encephalopathy.

TABULATION, INTEGRATION, AND RESULTS:

Six randomized controlled trials, which included 26,529 laboring singletons with cephalic presentation at term, were analyzed. Compared with women who were randomized to cardiotocography, those who were randomized to ST analysis and cardiotocography had a similar incidence of perinatal composite outcome (1.5% compared with 1.6%; relative risk [RR] 0.90, 95% confidence interval [CI] 0.74-1.10; five studies), neonatal metabolic acidosis (0.5% compared with 0.7%; RR 0.74, 95% CI 0.54-1.02; five studies), admission to the neonatal intensive care unit (5.4% compared with 5.5%; RR 0.99, 95% CI 0.90-1.10; six studies), perinatal death (0.1% compared with 0.1%; RR 1.71, 95% CI 0.67-4.33; six studies), neonatal encephalopathy (0.1% compared with 0.2%; RR 0.62, 95% CI 0.25-1.52; six studies), cesarean delivery (13.8% compared with 14.0%; RR 0.96, 95% CI 0.85-1.08; six studies), and

operative delivery (either cesarean or operative vaginal delivery) (23.9% compared with 25.1%; RR 0.93, 95% CI 0.86-1.01; six studies).

CONCLUSION:

The use of ST analysis during labor as an adjunct to the standard cardiotocography does not improve perinatal outcomes or decrease cesarean delivery.