

Reduced prevalence of metabolic acidosis at birth: an analysis of established STAN usage in the total population of deliveries in a Swedish district hospital

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ABSTRACT

OBJECTIVE: The purpose of this study was to investigate quality-of-care improvements after the introduction of ST waveform analysis as an adjunct to standard cardiotocography (CTG).

STUDY DESIGN: This was a prospective clinical study that was conducted over 7 years. Four yearly cohorts of 12,832 term pregnancies were part of a detailed analysis. Cord blood metabolic acidosis and neonatal outcome were main outcome measures.

RESULTS: The STAN (S31 Fetal Heart Monitor; Neovanta Medical AB, Mölndal, Sweden) usage rate increased from 26 to 69%. The cord metabolic acidosis rate was reduced from 0.72 to 0.06%. This 91.7% improvement was associated with a significant reduction in the number of cases with a prolonged response time, calculated as the time from CTG

ST indications to intervene until delivery and an ability of the staff to identify and act on preterminal and unstable fetal heart rate patterns at the onset of a recording.

CONCLUSION: Our data indicate a paradigm shift in the outcome of delivery related to a high rate of CTG □ST usage and the application of structured CTG analysis.

Key words: asphyxia, fetal electrocardiogram, surveillance