

Limitations of ST analysis in clinical practice: three cases of intrapartum metabolic acidosis.

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OBJECTIVE: To examine detailed intrapartum events in cases of neonatal metabolic acidosis despite monitoring using STAN (cardiotocography [CTG] plus ST waveform analysis of fetal electrocardiogram [ECG]).

DESIGN: Retrospective case review.

SETTING: High-risk pregnancies monitored by STAN.

METHODS: Case note review was performed in newborns with metabolic acidosis where no significant ST changes in the fetal ECG occurred prior to birth.

MAIN OUTCOME MEASURES: Metabolic acidosis.

RESULTS: Detailed review of three cases identified poor signal quality, difficulties in CTG interpretation, failure to comply with STAN clinical guidelines and deterioration of the CTG without ECG alert as the leading causes of these adverse outcomes.

CONCLUSIONS: The cases illustrate some of the pitfalls associated with the clinical application of the STAN technology which prevent severe metabolic acidosis being eradicated completely. It may be useful to expand the STAN guidelines protocol towards the identification of exceptional clinical situations, such as in our cases, and towards appropriate additional interventions, as this may lead to a further reduction in adverse neonatal outcomes.