

Fetal blood sampling in addition to intrapartum ST-analysis of the fetal electrocardiogram: evaluation of the recommendations in the Dutch STAN(®) trial.

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OBJECTIVES: To evaluate the recommendations for additional fetal blood sampling (FBS) when using ST-analysis of the fetal electrocardiogram.

DESIGN: Prospective cohort study.

SETTING: Three academic and six non-academic teaching hospitals in the Netherlands.

POPULATION: Labouring women with a high-risk singleton pregnancy in cephalic position beyond 36 weeks of gestation.

METHODS: In labouring women allocated to the STAN(®) arm of a previously published randomised controlled trial who underwent one or more FBS during delivery, we assessed whether FBS was performed according to the trial protocol and how fetal acidosis, defined as an FBS pH < 7.20, was related to ST-waveform analysis.

MAIN OURCOME MEASURES: The number of FBS showing fetal acidosis, related to the different STAN(®) criteria where additional FBS is recommended.

RESULTS: Among 2827 women monitored with STAN(®), 297 underwent FBS, of whom 171 (57.6%) were performed according to the predefined criteria and 126 were performed in absence of these criteria. In the first group, rates of fetal acidosis (pH < 7.20) were two of 18, none of nine, 12 of 111 and three of 33 when FBS was taken for abnormal cardiotocogram (CTG) at the start, intermediary CTG at the start, abnormal CTG >60 minutes, and poor electrocardiogram quality, respectively. When the predefined criteria were not met and ST-analysis showed no ST-events, only two incidents of fetal acidosis were seen.

CONCLUSIONS: The performance of FBS is valuable in the advised STAN(®) criteria. When these criteria are not met, performance of FBS does not seem helpful in the detection of fetal acidosis.