# Absence of accelerations during labor is of little value in interpreting fetal heart rate patterns.

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Abstract

INTRODUCTION:
The aim of this study was to investigate the correlation between increasing time since fetal heart rate (FHR) accelerations, positive (no acceleration) stimulation tests and fetal acidemia.

MATERIALS AND METHODS:
Observational study of FHR recordings from 1070 laboring women with indication for fetal scalp blood sampling (FBS). FHR traces were scrutinized regarding acceleration at FBS and duration since most recent acceleration. The appraiser was blinded to the FBS result.

RESULTS:
At the first sampling, 8.8% of fetuses had lactate concentration >4.8 mmol/L. There were no differences between those with recent accelerations (≤60 min), and absent accelerations (>60 min or never) prior to FBS (8.3% vs. 8.9%, p = 0.71). Corresponding analyses for subgroups were: fetuses with isolated absence of accelerations, 3.7% vs. 1.5% (p = 0.41), fetuses without decelerations (i.e. reduced variability and/or tachycardia), 6.1% vs. 5.1% (p = 0.81) and fetuses with serious decelerations (i.e. late or complicated variable), 15.0% vs. 16.1% (p = 0.87). Among fetuses with serious decelerations, increasing duration from most recent acceleration had a weak but statistically significant correlation to increased lactate concentration (rs = 0.12, p = 0.03). The positive likelihood ratio for acidemia with no response at FBS was 1.15.

CONCLUSION:
In a population with FBS performed upon indication, there was no correlation between duration since last FHR acceleration and increased lactate concentration. The majority of fetuses are not acidemic even when the FHR trace is pathological and stimulation tests are only helpful when accelerations are provoked.