

How to reduce fetal scalp blood sampling? A retrospective study evaluating the diagnostic value of scalp stimulation to predict fetal acidosis assessed by scalp blood sampling

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Abstract

Objective - To compare the Fetal Scalp Stimulation (FSS) to Fetal Blood Sampling (FBS) as an adjunctive test of fetal wellbeing in labor in order to reduce Fetal Blood Sampling. **Design** - A retrospective study from February to December 2019 **Setting** - Monocentric study, CHRU Lille **Population** - Singleton pregnancy with gestational age of more than 36 weeks, cephalic fetal presentation **Methods** - 191 FBS procedures performed for non-reassuring fetal heart rate during labor were included. A gentle digital scalp stimulation was performed for 15 seconds, two minutes before each FBS. It was considered as positive when accelerations and/or normal variability were elicited. The FBS was classified as normal when pH was < 7.25 . **Results** - Of the 191 FBS procedures, 163 (85.3%) found a normal pH result, 122 (63.9%) and 154 (80.6%) had an acceleration and a normal variability post-FSS, respectively. When accelerations were observed after FSS, FBS pH result was normal in 91.6% cases (95%CI, 85-95). When normal variability was observed after FSS, FBS pH result was normal in 87.4% cases (95% CI, 81-92). **Conclusion** - This study suggests that FSS could be an interesting alternative adjunctive test to FBS as it seems to be reliable, non-invasive and easy to perform. Thus, FSS could be performed in the first instance when non-reassuring fetal heart rate is observed in order to limit FBS only to absence of acceleration after FSS.

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Fetal Scalp Stimulation.docx available at <https://authorea.com/users/331880/articles/458627-how-to-reduce-fetal-scalp-blood-sampling-a-retrospective-study-evaluating-the-diagnostic-value-of-scalp-stimulation-to-predict-fetal-acidosis-assessed-by-scalp-blood-sampling>