iPREFACE score: integrated score index to predict foetal acidaemia by intrapartum foetal heart rate monitoring

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Abstract

Objective: Cardiotocography is used worldwide to evaluate foetal well-being during pregnancy and labour. In past guidelines, the management plan was determined based on the assessment of the most severe waveform of the deceleration. There are no guidelines for evaluating the integrated recurrent decelerations; however, we believe their assessment to be essential for predicting the status of the foetus. The objective of this study was to propose an indicator for performing medical interventions during labour by creating a scoring system that reflects integrated recurrent decelerations. Design: A retrospective cohort study. Sample: Full-term single foetus births from vaginal deliveries. Methods: iPREFACE score, the integrated score index to predict foetal acidemia by intrapartum foetal heart rate monitoring was calculated using cardiotocography findings from approximately 30 min before delivery. Main Outcome Measures: We examined the iPREFACE score and fetal acidemia association and calculated the cut-off iPREFACE scores for acidaemia using receiver operating characteristic curves. Results: The study included 469 delivery cases. Their iPREFACE scores exhibited a significant negative correlation with the umbilical artery blood pH (correlation coefficient -0.43). The cut-off iPREFACE scores for the umbilical artery blood with pH <7.20, <7.10, and <7.0 were 44, 46, and 67, respectively (the areas under the curve were 0.776, 0.962, and 0.996, respectively). Conclusions: The iPREFACE score may predict foetal acidaemia and could be used as an indicator for timely medical interventions during labour. Because assessments using a cardiotocography are quick and easy to perform, the iPREFACE score could be a valuable tool in clinical practice.

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Running title: iPREFACE score: integrated score index to predict foetal acidaemia

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