

Association of atypical decelerations with acidemia.

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Abstract

OBJECTIVE: To estimate the incidence of atypical fetal heart rate deceleration characteristics in term labor and their association with acidemia.

METHODS: A 5-year retrospective cohort study was performed of all singleton, nonanomalous gestations delivered at 37 weeks or after. Thirty minutes of electronic fetal monitoring before delivery were interpreted by two formally trained research nurses, blind to clinical and outcome data, using American College of Obstetricians and Gynecologists (the College) guidelines as well as deceleration features historically referred to as atypica such as shoulders, slow return, and variability within the deceleration. Acidemia was defined as umbilical cord arterial pH 7.10 or less. Incidence of atypical features was estimated; univariable and multivariable analyses were performed.

RESULTS: Within 5,388 women, the atypical feature seen with the most frequency was shoulders (n=2,914 [54.1%]) followed by slow return (n=2,618 [48.6%]), minimal deceleration variability (n=430 [8.0%]), and absent deceleration variability (n=4 [0.07%]). There was no difference in the incidence of atypical features between neonates with acidemia (n=57) and without (n=5,331). There was no association between shoulders (adjusted odds ratio [OR] 1.06, 95% confidence interval [CI] 0.63-1.81) or slow returns (adjusted OR 0.91, 95% CI 0.54-1.53) and acidemia. Similarly, compared with patients with moderate variability within deceleration nadirs, neither minimal (adjusted OR 0.82, 95% CI 0.43-1.55) nor marked (adjusted OR 0.65, 95% CI 0.27-1.55) variability was significantly associated with acidemia.

CONCLUSION: These data support the absence of these specific atypical deceleration characteristics from the recognized definitions of decelerations stipulated by the College and the Eunice Kennedy Shriver National Institute of Child Health and Human Development in 2008 given their lack of association with acidemia or neonatal depression.