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TITLE: Clinical factors associated with presentation change of the second twin after vaginal delivery of the first twin

ABSTRACT

OBJECTIVE: To identify clinical factors associated with a change from vertex to nonvertex presentation in the second twin after vaginal birth of the first.

METHODS: We assembled a retrospective cohort of women with viable vertex--vertex twin pregnancies who delivered the presenting twin vaginally. Women whose second twin changed from vertex to nonvertex after vaginal birth of the first were classified as experiencing an intrapartum change in presentation. Characteristics associated with intrapartum presentation change in a univariate analysis with a p-value less than or equal to 0.10 were then evaluated in a multivariate logistic regression model.

RESULTS: Four-hundred fifty women met inclusion criteria, of whom 55 (12%) had intrapartum presentation change of the second twin. Women experiencing intrapartum presentation change were more likely to be multiparous (69% v. 47%, $p < 0.01$) and to have had a change in the presentation of the second twin between the most recent antepartum ultrasound and the ultrasound done on admission to labor and delivery (11% v. 4%, $p = 0.04$). In an adjusted analysis, multiparity and gestational age less than 34 weeks were significant independent variables (aOR 2.91, 95% CI 1.53-5.62 and aOR 2.56, 95% CI 1.11-5.86 respectively). Women with intrapartum presentation change were more likely to undergo cesarean birth for their second twin (44% v. 7%, $p < 0.01$) with an adjusted odds ratio of 10.50 (95% CI 5.20-21.20) compared to those with stable

intrapartum presentation. Twenty of the 24 (83%) cesarean births performed in the intrapartum presentation change group were done for issues related to malpresentation.

CONCLUSIONS: Multiparity and gestational age less than 34 weeks are associated with intrapartum presentation change of the second twin.