Pregnancy outcomes in women affected by fetal alpha-thalassemia: a case control study

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Abstract

Objective: To evaluate the associations between fetal α-thalassemia and risk of adverse pregnancy outcomes. Design: Case control study. Setting: Forty-two hospitals in Nanning, China. Participants: Pregnant women >20 weeks of gestation. Methods: Multivariate logistic regression analyses were performed to explore associations between fetal α-thalassemia and adverse pregnancy outcomes. Receiver operating characteristic curve analyses were used to assess the use of selected factors in predicting low Apgar scores. Main Outcome and Measure: Pregnancy outcomes of thalassemic women whose fetuses had non-thalassemia, α-thalassemia trait or HbH disease. Results: With thalassemic women whose fetuses were normal as the reference, fetuses in the HbH disease group showed a higher increase in the odds of Apgar scores being <7 at 1 minute (4.74% vs 1.57%) and 5 minutes (2.84% vs 0.67%). With non-thalassemic women as the reference, this trend was more obvious; whereas the normal fetal group was more likely to be diagnosed with postpartum hemorrhage. Combining fetal HbH disease and gestational age reflected medium accuracy in Apgar predictions. Conclusions: Fetal HbH disease was associated with a higher risk of low Apgar scores. Thalassemic women with normal fetuses may also have an increased risk of postpartum hemorrhage, and should be monitored accordingly. Funding: The Key Research and Development Programs of Nanning, China (No. 20183038 and No. 20193097). Keywords: Fetal alpha-thalassemia; Low Apgar scores; Postpartum hemorrhage. Tweetable abstract: This study shows that fetal HbH disease may increase the risk of low Apgar scores, and that thalassemic women with normal fetuses are prone to postpartum hemorrhage.

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