

Extended Abstract

Flow mediated vasodilation predicts the development of gestational diabetes mellitus

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Objective

To prospectively measure flow mediated vasodilation (FMD) in a cohort of women with risk factors for preeclampsia and to identify poor obstetrical outcomes associated with changes in FMD.

Methods

Data from 34 participants enrolled in this prospective cohort trial were analyzed. Brachial artery FMD was evaluated and recorded by a trained research nurse for each participant in each trimester of pregnancy. Demographic data and pregnancy outcome data were obtained from the electronic medical record. The data was analyzed and a backward,

stepwise regression was used to create the final model.

Results

The cohort FMD, overall, did not significantly change during pregnancy. Significant correlations between FMD and pregnancy characteristics included extremes of maternal age, age at time of delivery, operative vaginal delivery, PPROM, abruption and history of preeclampsia. Significant correlations between the change in FMD between trimesters and pregnancy characteristics included extremes of maternal age, BMI over 25, type I diabetes mellitus, number of live births and age at the time of delivery. A decrease in FMD was found to be significantly predictive of the

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development of gestational diabetes mellitus type A1 in this cohort ($p=0.03$).

Conclusion

This is the first study to prospectively evaluate FMD in a cohort at risk for developing pre-eclampsia. The change in FMD from the first to the second trimester is predictive of GDMA1. This change suggests a predictive modality and early pathophysiologic pathway in the development of adverse outcomes

in this cohort of women.

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