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Longitudinal Cognitive Evaluation Before and After Delivery Among Women with Preeclampsia

Abstract

High blood pressure is a common disease that affects pregnant women in the US. Preeclampsia is a type of high blood pressure disease of pregnancy that can affect the brain of new mothers. Studies showed that women with this disease had lower cognition scores after their pregnancy. These findings suggest a long-term effect of preeclampsia in the brain. To determine how much the brain is affected, we will measure cognitive function of women with and without this disease. We will measure brain function in women while they are still pregnant and after they deliver using cognition tests. We will also check how social determinants of health affect cognition. Lastly, we will study how protein levels are related to changes in brain function. Accomplishing this study will allow anesthesiologists to identify women at risk of cognitive decline and to implement peri-partum obstetric or anesthesia intervention strategies that can mitigate or delay cognitive decline. The long-term career objective is to develop a broad knowledge of the impact of preE and other risk factors on cognitive function across women's lifespan, and to understand the mechanistic role of proteins potentially associated with poor cognitive outcomes.