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# Association Between Hypertensive Disorders and Fetal Growth Abnormalities in Class II and III Obese Women

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Mary Ferranti  
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## **Association Between Hypertensive Disorders and Fetal Growth Abnormalities in Class II and III Obese Women**

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**Introduction:** Studies have shown that hypertension in pregnancy can lead to small for gestational age newborns while obesity can lead to large for gestational age newborns. However, little research has been done to study the influence of both disorders on birthweight.

**Objective:** To assess the effect of both maternal obesity and a hypertensive disorder on neonatal birthweight and to identify the specific growth abnormality(s) present if a discrepancy exists. We hypothesize that obese women diagnosed with hypertensive disorders are more likely to deliver neonates with growth abnormalities compared to obese women without hypertensive disorders.

**Methods:** This is a nested prospective cohort study enrolling women who reached a body mass index of 35 kg/m<sup>2</sup> during pregnancy from 2016-2018 at Thomas Jefferson University affiliated hospitals. Data on maternal hypertensive status and neonatal birthweight was obtained via chart abstraction. Categorical variables were analyzed via  $\chi^2$  and continuous variables by independent samples t-test and ANOVA. Multiple logistic regression was performed to account for confounders.

**Results:** Obese women diagnosed with gestational hypertension were less likely to have a newborn with a growth abnormality compared with normotensive obese women (OR .32, 95% CI 0.11, 0.92, p=0.035). Secondly, there were a significant number of growth abnormalities in this cohort (n=70, 24%).

**Discussion:** Obese women with gestational hypertension were less likely to deliver infants with growth abnormalities; however, this shouldn't reduce standard fetal monitoring in these high-risk patients. The number of growth abnormalities found may indicate the need for more frequent ultrasounds for obese patients earlier in pregnancy.