

EP16.34 Hypertensive disorder of pregnancy at term, neonatal seizure and adverse outcomes

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Objectives

Data is lacking on neonatal and maternal outcomes in pregnancies complicated by hypertensive disorders (HDP) and subsequent neonatal seizures (NS). We hypothesized that among individuals with HDP at 37 to 41 weeks, NS, compared to no NS, are associated with significantly increased adverse outcomes in the neonatal-maternal dyad.

Methods

We conducted a population-based cohort study using US vital statistics data (2016–2023). We excluded those without labor, delivery < 37.0 or > 41.6 weeks, malpresentation, diabetes, multiples, anomalies, and no seizure data. The co-primary outcome was composite neonatal adverse outcome (CNAO; 5-min Apgar <5, assisted ventilation >6 hours, or neonatal death) and infant mortality. Secondary outcomes included composite maternal adverse outcome (CMAO): transfusion, ICU admission, uterine rupture, or unplanned hysterectomy). Multivariable Poisson regression models with robust error variance were used.

Results

Of 29.9 million births, 1.2 million (4.1%) met the inclusion criteria and among them NS occurred in 658 (5 /1,000 live births). Risk factors independently associated with NS included nulliparity (aRR 1.41), smoking (aRR 1.65), obesity class III (aRR 1.34), chorioamnionitis (aRR 2.78), operative vaginal delivery (aRR 3.45), Cesarean delivery (aRR 2.20), operative vaginal delivery (aRR 3.45), and male sex (aRR 1.52). CNAO occurred in 547.9/1,000 births with seizures versus 17.0/1,000 without (aRR 23.18, 95%CI 21.40–25.10). All individual components—5 min Apgar <5 (aRR 32.52) and neonatal death (aRR 109.56)—were significantly higher with than without NS. CMAO was significantly more common with than without NS (aRR 5.36, 95%CI 4.00–7.19), as were the components—ICU admission (aRR 9.49) and uterine rupture (aRR 40.11).

Conclusion

Among pregnancies complicated by HDP, neonatal seizure, although uncommon, are associated with increased risks of neonatal and maternal adverse outcomes. While the data is useful for shared-decision making, trials mitigating adverse outcomes may be problematic considering the infrequent nature of occurrence.