

EP16.103 Shoulder dystocia in pregnancies with and without diabetes mellitus: impact on neonatal and maternal outcomes

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Objectives

There is limited evidence on whether diabetes modifies neonatal and maternal outcomes in pregnancies complicated by shoulder dystocia (SD).

Methods

We conducted a secondary analysis of the APEX study. We included non-anomalous singletons at ≥ 34 weeks delivered vaginally with documented SD requiring > 1 maneuver. Cases were stratified by the presence of diabetes. The primary outcome was a composite neonatal adverse outcome (CNAO), including Apgar < 5 at 5min, fractures, intracranial hemorrhage, brachial plexus palsy, hypotension, hypoxic-ischemic encephalopathy, or neonatal death. Secondary outcomes included composite maternal adverse outcome (CMAO) and individual components. Multivariable Poisson regression models were used.

Results

Among 74,934 eligible deliveries, 2,061 (2.7%) were complicated by SD, with a higher incidence among diabetic (4.8% vs 2.6%). CNAO occurred more frequently in diabetic pregnancies (17.6% vs 8.5%; aIRR 1.66, 95% CI 1.10–2.50), with significantly higher risks of low 5-min Apgar (aIRR 2.36) and neonatal fractures (aIRR 2.03). In contrast, CMAO rates were similar between groups (20.5% vs 19.4%; aIRR 1.12, 95% CI 0.79–1.58), with no significant differences in individual maternal outcomes. In subgroup analyses, the increased neonatal risk associated with diabetes was driven by higher birthweight: among neonates $\geq 4,000$ g, CNAO was significantly higher in diabetics (aIRR 2.12), whereas no difference was observed below this threshold. Birthweight showed limited discriminatory ability for adverse outcomes (AUC 0.55–0.63), although non-linear risk escalation was observed at higher weights in diabetic pregnancies.

Conclusion

Among pregnancies complicated by SD, DM is associated with a significantly increased risk of neonatal—but not maternal—adverse outcomes, particularly in the presence of macrosomia. These findings suggest that diabetes confers additional neonatal vulnerability beyond mechanical factors alone and should be considered in intrapartum risk stratification.