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## The effect of intrapartum glycemic control on the incidence of neonatal hypoglycemia

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## SI/PHR Abstract

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### **The effect of intrapartum glycemic control on the incidence of neonatal hypoglycemia**

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**Introduction:** 1-2% and 6-9% of pregnancies are complicated by type I/II and gestational diabetes mellitus (DM), respectively, leading to increased risk of adverse neonatal outcomes. Women with DM require glucose monitoring and glycemic control at the time of delivery; however, it remains unclear how variations in intrapartum glucose impact neonatal hypoglycemia.

**Methods:** This is a retrospective cohort study of women with singleton pregnancies, diagnosed with DM, who delivered >36 weeks gestation after attempting induction of labor at Thomas Jefferson University Hospital between 01/01/2017 and 01/01/2018. Intrapartum DM management included hourly capillary glucose (CG) monitoring until delivery, insulin drip with  $CG > 110 \text{ mg/dL}$  and dextrose with  $CG < 60 \text{ mg/dL}$ . Poor intrapartum glycemic control and neonatal hypoglycemia was defined as  $CG \geq 100 \text{ mg/dL}$  and  $CG < 40 \text{ mg/dL}$ , respectively. Maternal characteristics, perinatal outcomes, and intrapartum CG values were collected. Primary outcomes included neonatal hypoglycemia. Average intrapartum CG 6-hours before delivery was used to evaluate neonatal hypoglycemia risk.

**Results:** Data included 67 women with DM (mean age  $32 \pm 6$  years, mean BMI  $31.9 \pm 8.1$ ) who delivered at mean gestational age  $38.2 \pm 2.2$  weeks. Mean birthweight was  $3188 \pm 605 \text{ g}$ ; 16.4% and 3.0% of neonates had Apgar scores  $< 7$  at 1- and 5-minutes, respectively, and 29.9% were

## **SI/PHR Abstract**

admitted to the intensive care unit (ICU). Neonatal hypoglycemia was present in n=9 (13.4%) and was higher in women with poor intrapartum glycemic control (66.7% vs. 31.0%, OR=2.15).

**Conclusion:** Poor glucose control in women with DM 6-hours before delivery may be associated with increased incidence of neonatal hypoglycemia. Future prospective studies could examine whether strict intrapartum glycemic control lowers neonatal hypoglycemia.