

Not all small fetuses are equal: Delphi criteria identify those at increased risk of adverse neonatal outcomes

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Background & Objectives

Distinguishing constitutionally small fetuses from those with true fetal growth restriction (FGR) remains a *major* clinical challenge. Delphi consensus criteria have been proposed to standardize diagnosis but their ability to discriminate clinically relevant risk among small fetuses remains uncertain.

Objective: This study aimed to assess whether, among fetuses with estimated fetal weight (EFW) or abdominal circumference (AC) <10th centile, Delphi criteria identify those at increased risk of adverse neonatal outcomes.

Methods

- Retrospective single-centre study
- Jan 2022 – Dec 2024
- Singleton pregnancies with EPF and/or AC < 10th centile
- Exclusions: multiple pregnancy, *major* anomalies, incomplete data
- Classification by Delphi criteria
- Primary outcome: NICU admission, resuscitation, Apgar score < 7 at 5 minutes, respiratory distress syndrome, neonatal death
- Secondary outcomes: gestational age at delivery, birthweight, Fenton centile, mode of delivery
- Logistic regression performed

Results

Study population
185 pregnancies | 118 SGA | 67 FGR

- ✓ Adverse neonatal outcome was more frequent in FGR than SGA: 37.3% vs 11.9%
OR 4.4 (95% CI 2.1 – 9.3), p < 0,001
- ✓ After adjustment for gestational age at delivery age at delivery and maternal characteristics, the association was no longer statistically significant
- ✓ Mean gestational age at delivery: 38.08 weeks in SGA vs 36.07 weeks in FGR (p < 0.001)
- ✓ Cesarean delivery: 36.4% in SGA vs 65.7% in FGR (p = 0,002)
- ✓ NICU admission was also more frequent in FGR (23 cases) than SGA (9 cases), p < 0,001.

✓ Conclusion

Among fetuses with EFW or AC below the 10th centile, Delphi criteria for fetal growth restriction identify a subgroup with a substantially higher rate of adverse neonatal risk. However, this excess risk appears to be largely mediated by earlier gestational age at delivery, highlighting prematurity and delivery timing as key determinants of neonatal outcomes.

Abbreviations: SGA, small for gestational age; FGR, fetal growth restriction; EFW, estimated fetal weight; AC, abdominal circumference; NICU, neonatal intensive care unit.

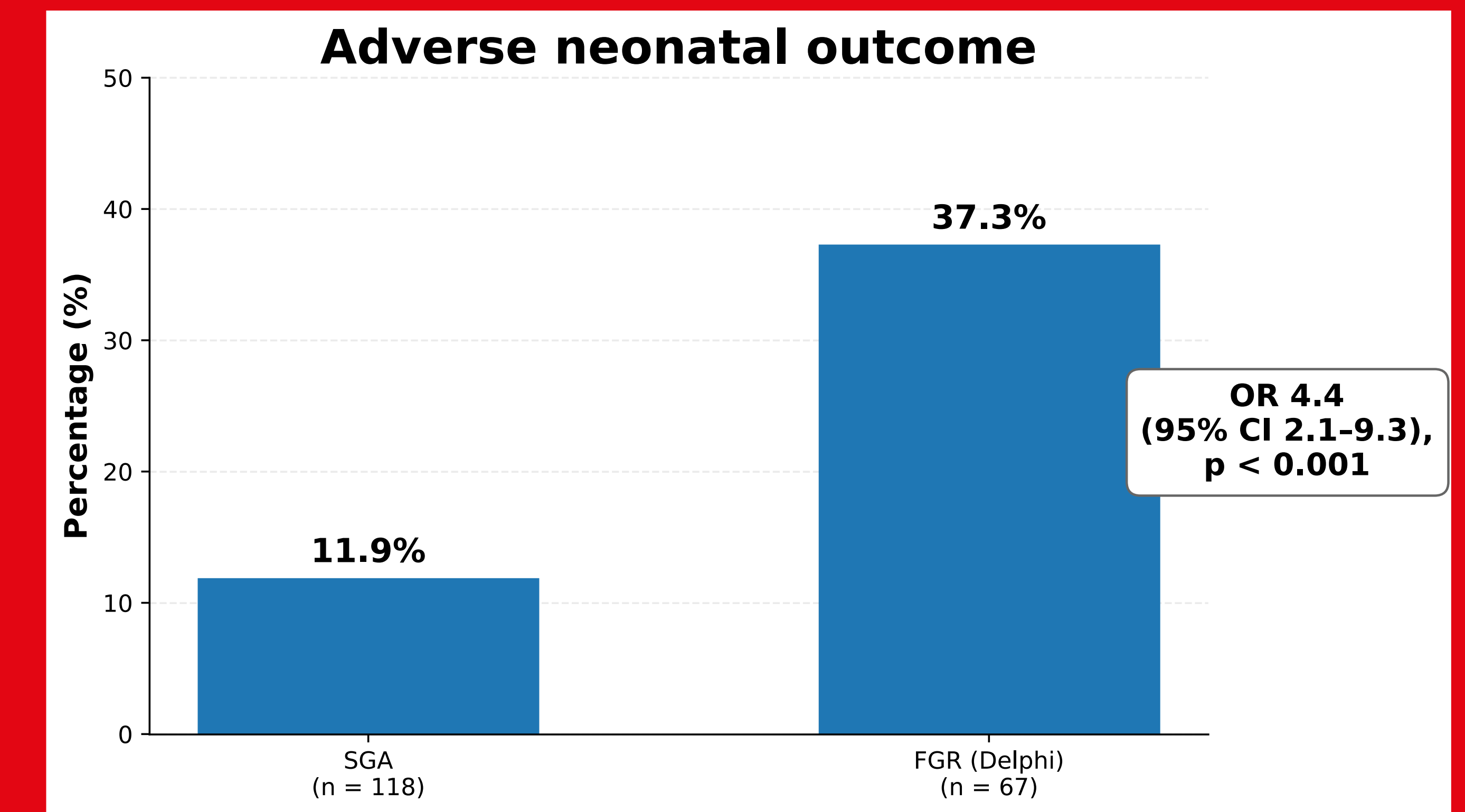


Figure 1. FGR identified by Delphi criteria had a substantially higher adverse neonatal outcome rate.

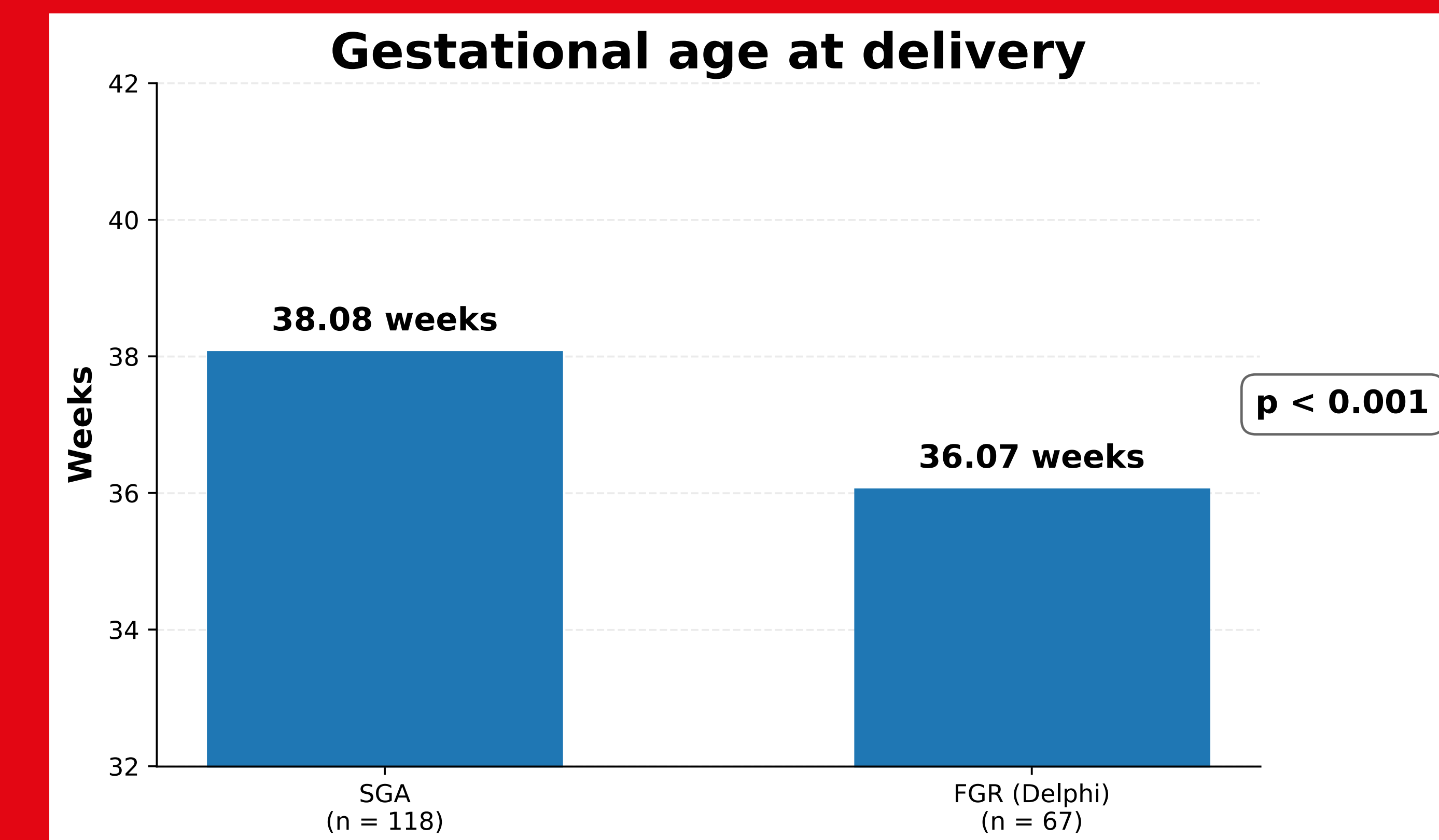


Figure 2. Earlier delivery in the FGR group may explain much of the excess neonatal risk.

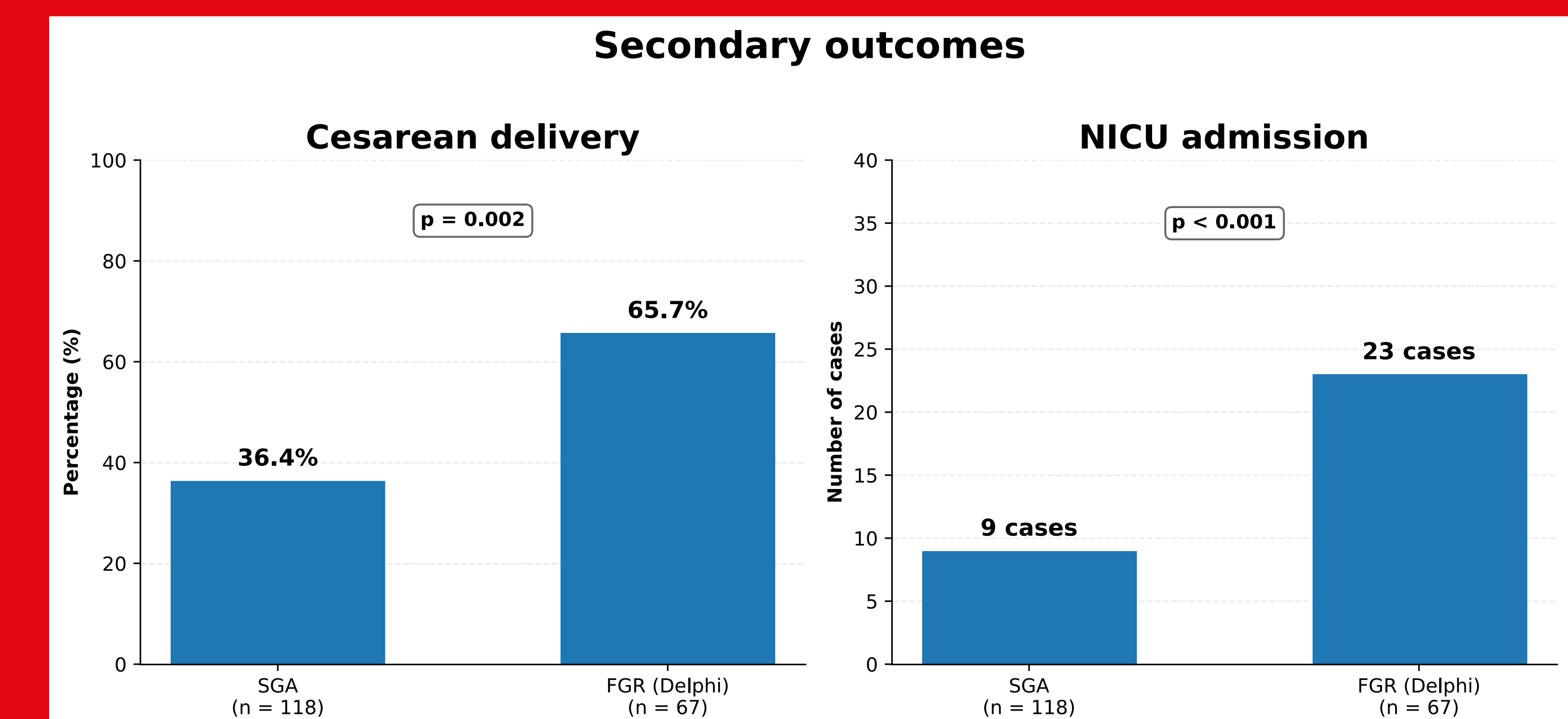


Figure 3. FGR was associated with more cesarean deliveries and more NICU admissions.