

Effectiveness of the TRUFFLE monitoring protocol in the management of early onset fetal growth restriction isuog2025.1910030

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BACKGROUND

The TRUFFLE trial established a monitoring protocol to manage early onset fetal growth restriction (FGR) and time birth based on changes in fetal Dopplers (umbilical and ductus venosus) as well as short term variability (STV) derived from computerised CTG assessment¹.

The aim of this study is to investigate the effectiveness of the TRUFFLE Monitoring protocol in a cohort of early onset FGR.

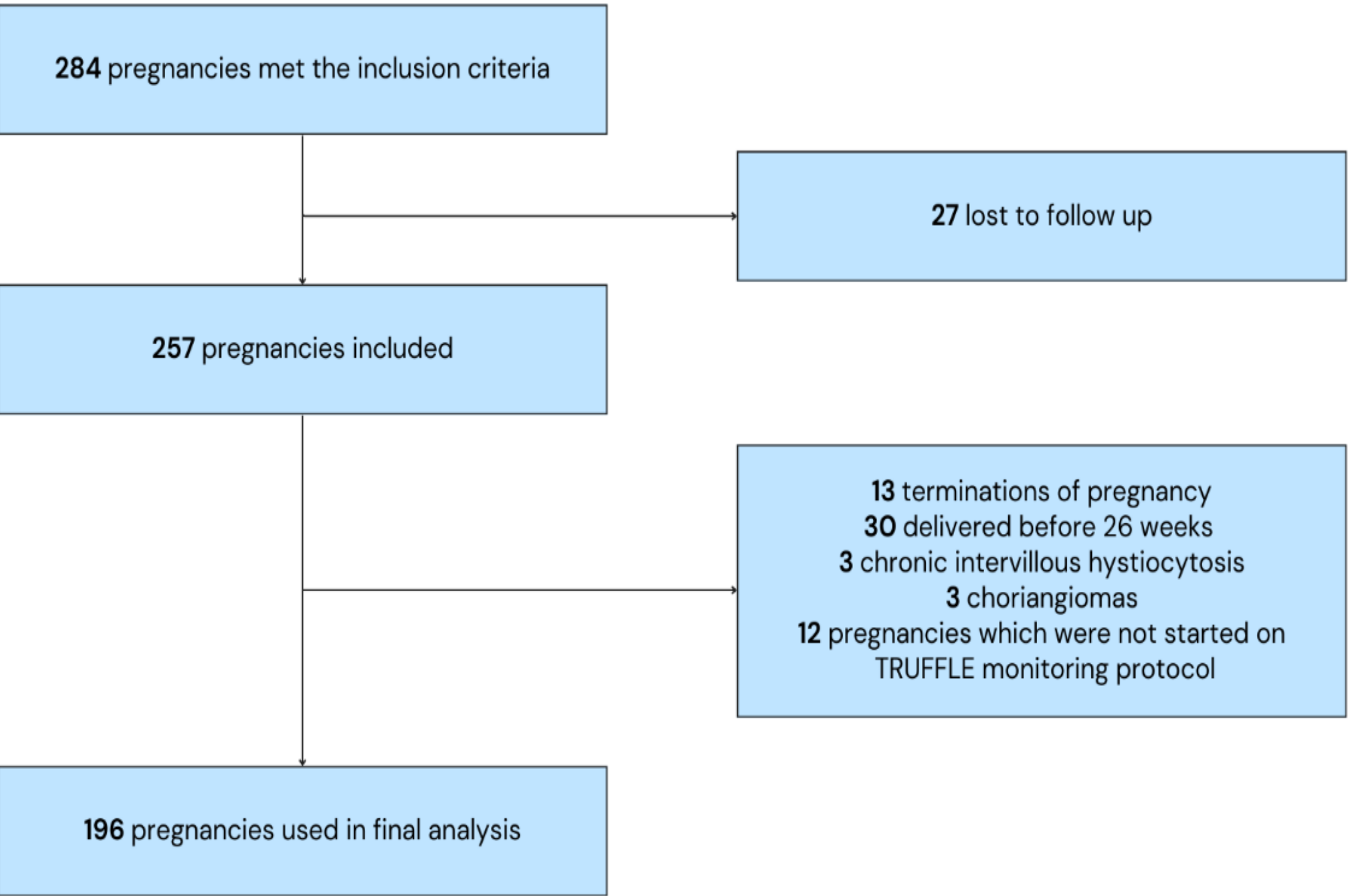
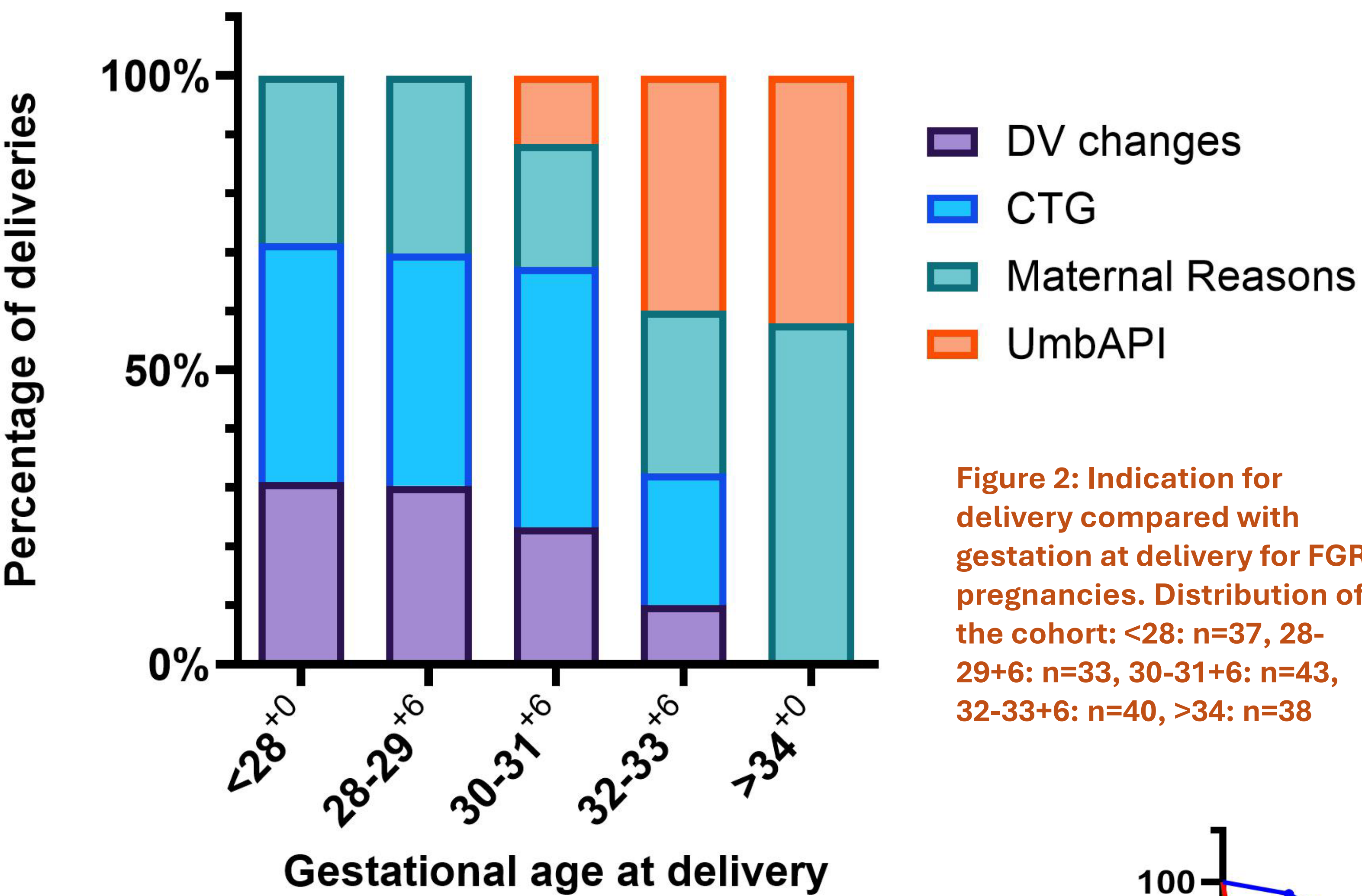


Figure 3: Flowchart of study population identification

References: Bilardo, C. M. et al. Severe fetal growth restriction at 26–32 weeks: key messages from the TRUFFLE study. *Ultrasound in Obstetrics and Gynaecology* vol. 50 285–290 Preprint at <https://doi.org/10.1002/uog.18815> (2017).



METHODS

Design: Retrospective cohort study

Setting: tertiary London hospital.

Time frame: pregnancies diagnosed between January 2014 and July 2024

Population: Singleton pregnancies diagnosed with FGR between January 2013 and July 2024. FGR was defined as an EFW or abdominal circumference <10th centile with an elevated UmbA PI>95th centile, diagnosed before 36 weeks’ gestation.

Outcomes: Maternal demographics, pregnancy details, delivery information, indication for delivery as well as neonatal outcomes were collected.

RESULTS

- 196 pregnancies met inclusion criteria.
- Gestational age at FGR diagnosis was 28⁺¹ (26⁺²-30⁺³) weeks and 30⁺⁶ (28⁺³-33⁺³) at the time of birth.
- Overall intact survival was 92.3%, with 2.6% stillbirths and 5.2% neonatal deaths. Hypertensive disorders were prevalent, affecting 68% of the cohort.
- Diagnosis <26 weeks allowed longer pregnancy prolongation (median of 31 days compared to 10.5 days; p<0.001).

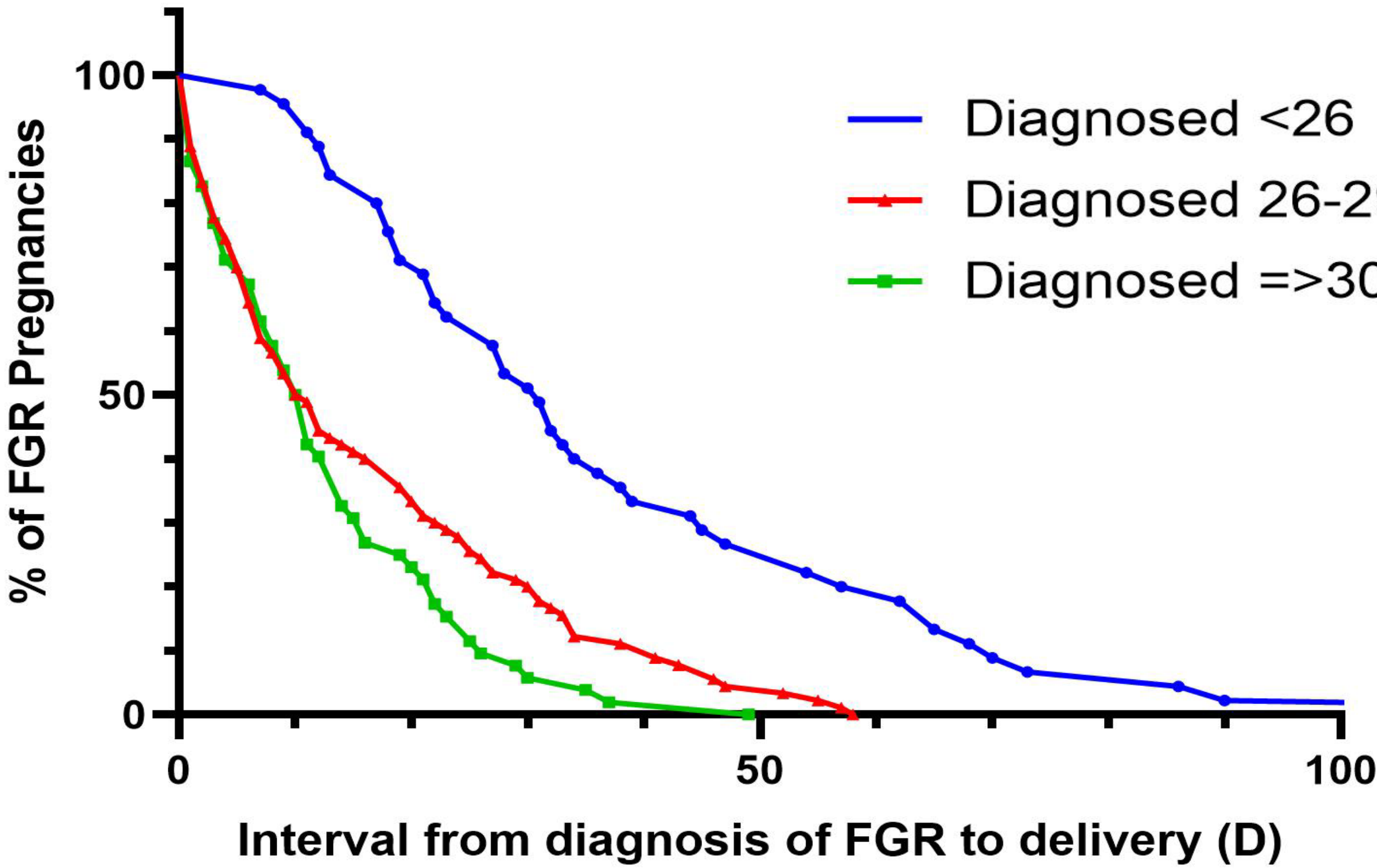


Figure 3: Interval from diagnosis to delivery depending on GA at diagnosis. Relationship between gestation at diagnosis and time in days to delivery. Median latency between FGR diagnosis and delivery was 31 days in those diagnosed <26 weeks, 10.5 days in both other groups. Curve comparison was done with Mantel-Cox test (p<0.001).

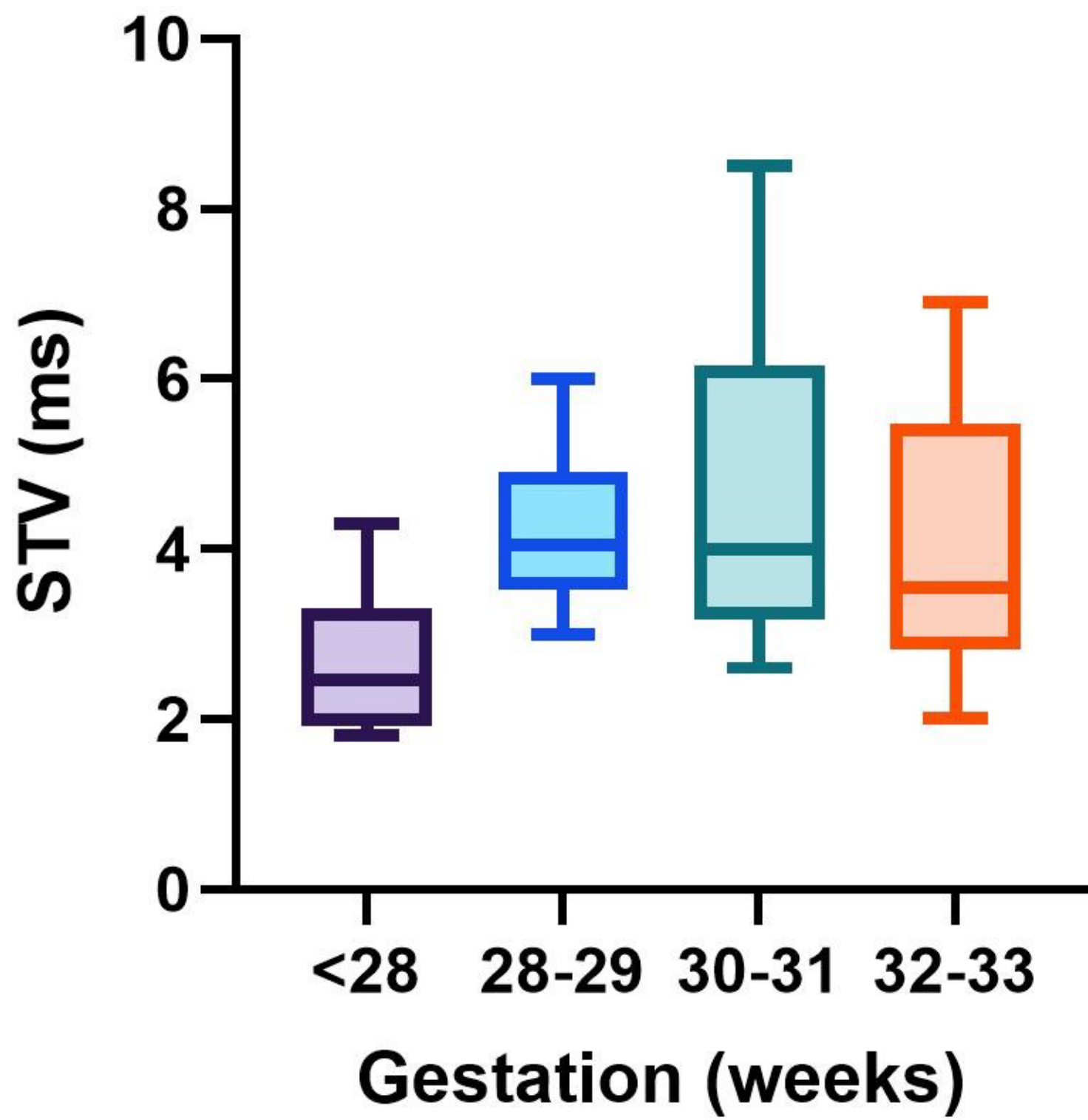


Figure 4: Final STV recorded in participants delivered for CTG indication according to the timing of the delivery (ANOVA p<0.001)

CONCLUSION

- Following the TRUFFLE monitoring protocol for early onset FGR pregnancies **can lead to similar outcomes** to those of the TRUFFLE trial.
- Indications for birth change with advancing gestation.
- Fetal dopplers (DV and UmbAPI) and computerised CTG are **both** necessary when monitoring early FGR pregnancies to ensure the best outcomes for these pregnancies.