



EP 07.05: Changes in fetal Doppler parameters and short-term fetal heart rate variability in pregnancies complicated by early-onset fetal growth restriction

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METHODS

Post hoc analysis of OPTICORE study including 1453 pregnancies complicated by early-onset FGR.

Three subgroups defined:

- 1) estimated fetal weight <3rd percentile and normal umbilical artery (UA) pulsatility index (PI);
- 2) UA PI >95th percentile with positive end-diastolic velocity (EDV);
- 3) ≥ 1 time absent or reversed UA EDV.

Mixed-effect models were used to analyze biomarkers over time.

Progression to more severe phenotype was studied using multistate models.

AIM Studying the evolution of Dopplers and STV in subgroups early-onset FGR pregnancies

KEY RESULTS Outlining three sequential subgroups of early-onset FGR

NEXT STEPS External subgroup validation & identifying prognostic factors for subgroup progression

RESULTS

Subgroup 3 had the lowest gestational age at birth (29 weeks, 4 days [IQR 27w6d-31w1d]) and lowest birthweight (890 grams [IQR 700g-1110g]).

Estimated Z-score trajectory for the UA PI increased more sharply in subgroup 3, indicating a more severe FGR phenotype. A similar trend was seen for the middle cerebral artery PI, with a more rapid decline in subgroup 3.

STV did not decrease in subgroup 2 and decreased in subgroup 3, while increasing in subgroup 1 (Figure 2).

Subgroup transition occurred most often within 1-2 weeks after early-onset FGR diagnosis.

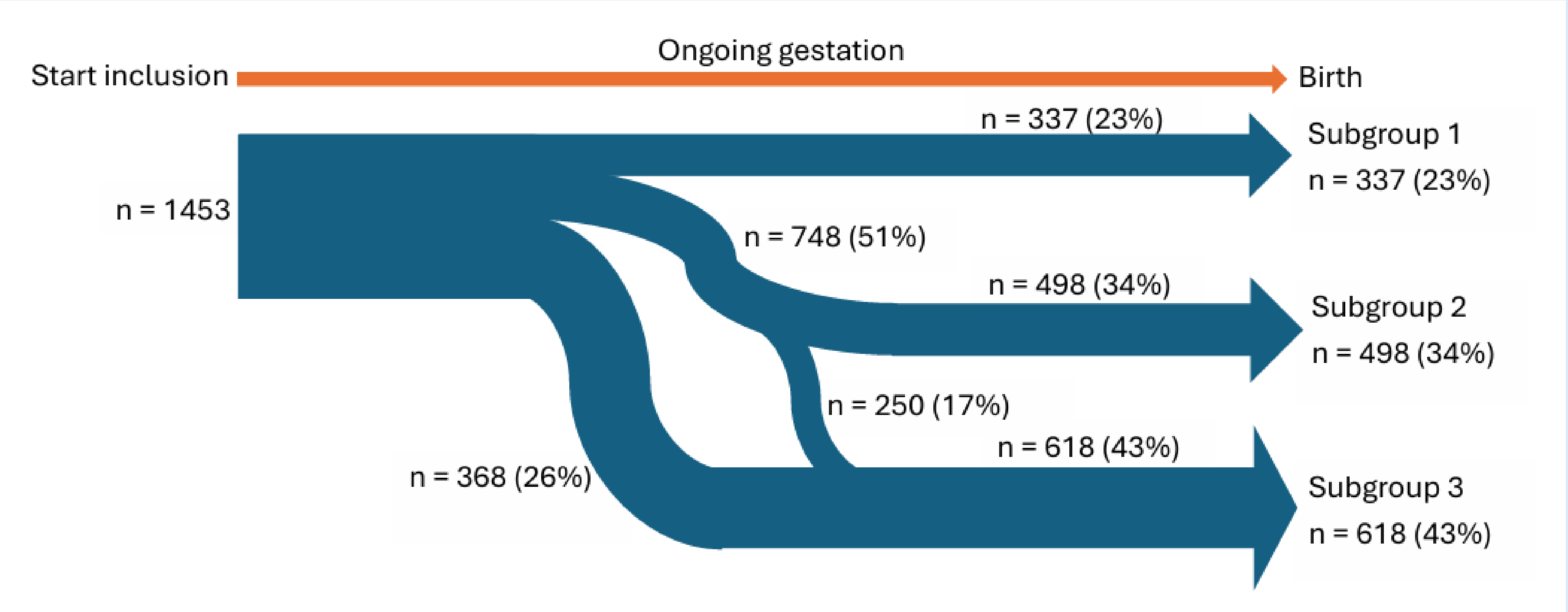


Figure 1: Sankey diagram to visually display the risk of transition between different subgroups as gestational processes

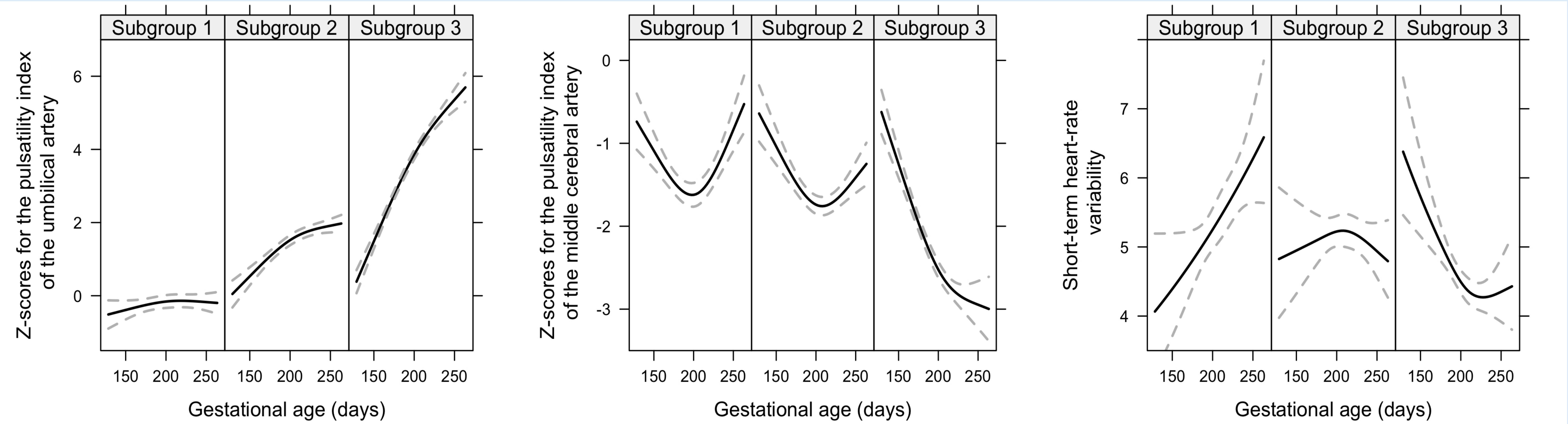


Figure 2
Estimated average Z-scores of the Doppler and STV values with corresponding 95% confidence intervals

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