



EP07.63A Four-Parameter Scoring System for Optimizing Timing of Induction in Low-Risk Fetal Growth Restriction

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Background

- Fetuses classified as growth-restricted using EFW < 10th centile with raised umbilical artery Dopplers may not uniformly require early induction — centile-based cut-offs can vary with the growth chart and population used.
- A stricter, absolute EFW cut-off (< 2200g at 37 weeks) may better capture pathological smallness than population-based centiles, and can be combined with Doppler and liquor findings for cumulative risk stratification.

Research Question

- Does a stricter, composite criterion for pathological smallness provide better risk stratification for timing delivery, so as to avoid unnecessary inductions of labour in low-risk FGR?

Objectives

- To compare risk stratification for timing of induction of labour (IOL) in FGR using a composite four-parameter scoring system against standard ISUOG criteria, in low-risk singleton pregnancies undergoing IOL between 37–40 weeks.

Parameters Present	Composite Score
1 + 2	3
1 + 3	3
1 + 4	3
2 + 3	2
2 + 4	2
3 + 4	2
1 + 2 + 3	4
1 + 3 + 4	4
2 + 3 + 4	3

Methods

- Retrospective study of 104 low-risk singleton pregnancies complicated by FGR, undergoing IOL between 37 and 40 weeks.
- A weighted four-parameter score was calculated for each patient and the resulting IOL timing was compared with that recommended by ISUOG criteria.

Four-Parameter Scoring System

Parameters	Points
EFW < 2200g at 37 weeks	2
UA PI > 95th centile	1
EFW < 3rd centile	1
Oligohydramnios	1

Timing of Induction by Total Score

Total Score	Recommended IOL Timing
≤ 1	39 weeks
= 2	38 weeks
≥ 3	37 weeks

Outcome Measures

- Primary: concordance between the two criteria in IOL decision-making; proportion of earlier inductions identified by the scoring system.
- Secondary: Caesarean delivery rate and NICU admission rate across gestational ages.

Results

- A total of 104 low-risk singleton pregnancies complicated by FGR were included.

28.37%	82.6%	66.66%
Concordance at 37 weeks (n=74, p<0.001)	Concordance at 38 weeks (n=23, p=0.08)	Concordance at 39 weeks (n=6, p=0.32)

GA	N	IOL: ISUOG	IOL: AIIMS Score	NICU Adm.
37 weeks	74	91.89%	22.97%	3.64%
38 weeks	23	82.6%	69.56%	39.13%
39 weeks	6	83.33%	66.66%	16.66%

At 37 weeks, the scoring system recommended induction in only 22.97% of fetuses versus 91.89% by ISUOG criteria (low concordance), while at 38 weeks concordance rose sharply to 82.6%. The scoring system identified 21% of fetuses at 37 weeks who could safely have delivery deferred to 38 weeks.

Conclusion

- The four-parameter model refines risk stratification, reducing unnecessary induction at 37 weeks without compromising neonatal outcomes.
- Concordance with ISUOG criteria increases with advancing gestation, supporting the scoring system's potential as an adjunct to existing criteria.
- Prospective validation in a larger cohort is warranted.