

Does fetal growth restriction actually resolve? Maternal and neonatal risks with resolved fetal growth restriction: 2019 - 2024

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Background

- Little guidance exists on the management of FGR that resolves, and potential neonatal outcomes including birth weight and rate of NICU admission are unknown.
- Aim: to compare the likelihood of identifying small for gestational age (SGA) infants in fetuses with resolved FGR (based on estimated fetal weight (EFW) and abdominal circumference ((AC) <10th percentile)) compared to those without history of FGR.

Methods

- Retrospective case control study of fetal growth ultrasounds (US) performed at our institution from 01/2019 -12/2024.
- US evaluating biometric parameters for singleton pregnancies originally meeting criteria for FGR based on EFW or AC <10th percentile, with persistent resolution of both EFW and AC parameters, were included.
- Controls were matched based on year of birth, gestational age (GA) and maternal age at delivery.
- Outcomes:
 - Primary: prevalence of SGA neonate at birth
 - Secondary: NICU admission rate, GA at birth and mode of delivery (MOD)
- We applied Wilcoxon Rank Sum test for continuous variables and Chi Square for categorical variables; a mixed effects logistic regression model was used to compare cases and controls.



Over one third of neonates with “resolved” FGR are SGA at birth

Results

Table 1: Maternal demographics

	Resolved FGR (N=161)		No FGR (N=161)		<i>p</i>
	Mean or N	SD or %	Mean or N	SD or %	
Maternal age, years	27	(±) 6	27	(±) 6	>0.9
Gravidity	2.67	(±) 1.84	3.09	(±) 1.93	0.016
Parity	0.22	(±) 0.62	0.24	(±) 0.61	0.9
BMI, kg/m ²	34	(±) 9	34	(±) 8	0.5
Hypertensive disorder (HDP)	71	44%	47	29%	0.007
Diabetes	26	16%	13	8.1%	0.026
Substance use disorder (SUD)	29	18%	11	6.8%	0.005

Table 2: Fetal/neonatal demographics & outcomes

	Resolved FGR (N=161)		No FGR (N=161)		<i>p</i>
	Mean or N	SD or %	Mean or N	SD or %	
GA at diagnosis	27	(±) 6	-	-	-
Gender, male	68	42%	68	42%	0.9
Birth weight, grams	2759	(±) 478	3062	(±) 528	<0.001
Birth percentile	23	20%	42	27%	<0.001
SGA at birth	55	34%	20	12%	<0.001
NICU admission	37	23%	37	23%	0.9

Conclusions

- Neonates with history of FGR are more likely to be SGA compared to those with normal growth profile in antenatal period when controlling for HDP, diabetes, and SUD.
- Future studies should prospectively follow growth of fetuses with resolved FGR to understand growth trajectories and outcomes.

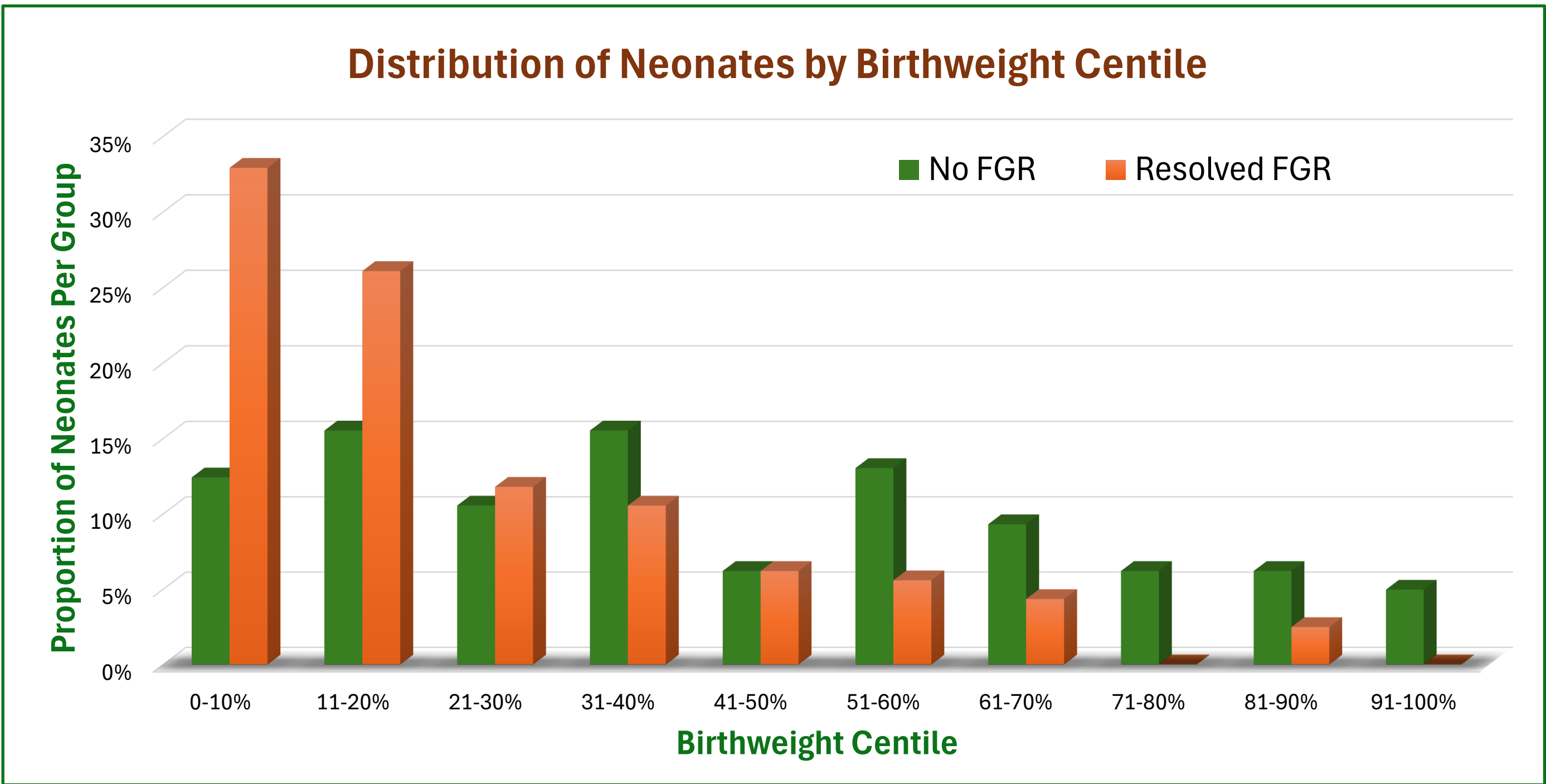


Figure 1: Histogram. When controlling for HDP and SUD, the risk ratio for cases vs control for SGA is 2.3 (95% CI 1.4-3.4; *p*=0.001).