

Real-World Accuracy of Ultrasound Fetal Weight Estimation in a Large Tertiary Center: A 12-Year Cohort Study

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Objective

To evaluate the accuracy of ultrasound estimated fetal weight (EFW) performed within seven days of delivery, and to compare performance across neonatal growth categories defined by population-based birthweight percentiles.

Methods

- Retrospective cohort of all deliveries at a university-affiliated tertiary center, 2013 - 2024 (146,956 births).
- Examinations with an EFW within seven days before delivery yielded 15,359 matched EFW and birthweight pairs.
- Accuracy was assessed by mean absolute percentage error (MAPE).
- Neonates were classified SGA, AGA or LGA using the Dolberg Israeli population reference.

Results

15,351

Paired EFW and birthweight examinations analysed

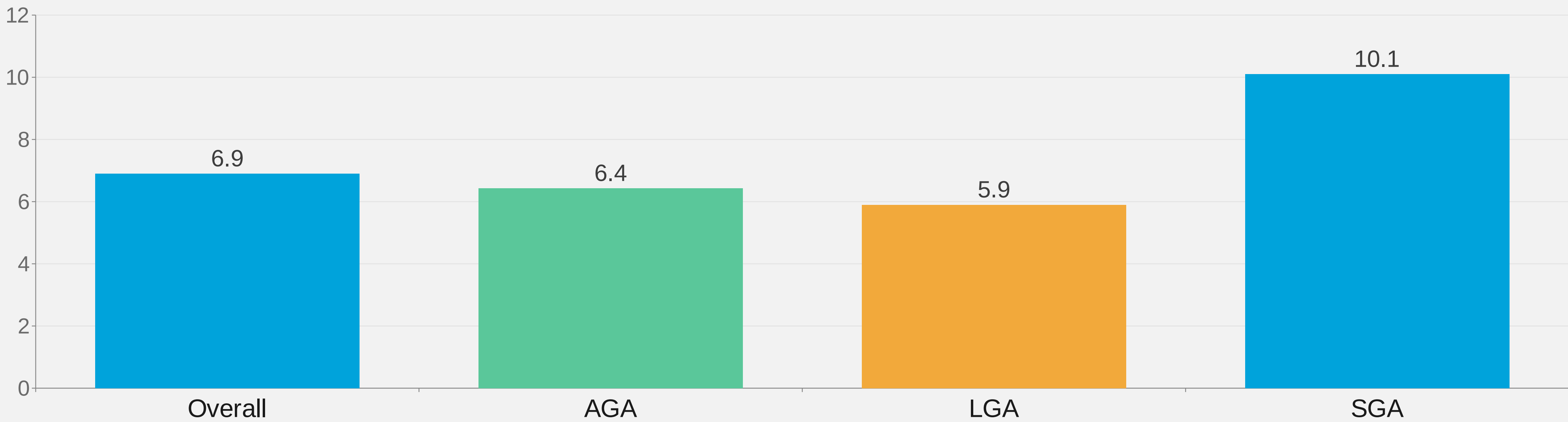
6.9%

Overall mean absolute percentage error

10.1%

MAPE among SGA neonates, the least accurate group

Mean absolute percentage error by neonatal growth category



Accuracy and direction of error by growth category

Category	MAPE	Overestimation
Overall	6.9%	-
AGA	6.4%	-
LGA	5.9%	28.3%
SGA	10.1%	75.8%

Conclusion EFW within seven days of delivery was accurate overall, but least accurate in SGA, where three-quarters of estimates were overestimates. Heightened caution is warranted when management decisions rest on suspected growth restriction.