

EP07.41

Population-specific validation of fetal weight formulas:
evidence from a multicenter near-delivery cohort

Sumito Nagasaki¹, Rio Suzuki², Fumio Sugo², Noppasin Khwankaew^{1,3}, Junya Sakuma¹, Ayumu Ito¹, Masahiko Nakata¹

¹Toho University Omori Medical Center, Tokyo, Japan ²Toho University Graduate School of Medicine, Tokyo, Japan
³Songklanagarind Hospital, Thailand

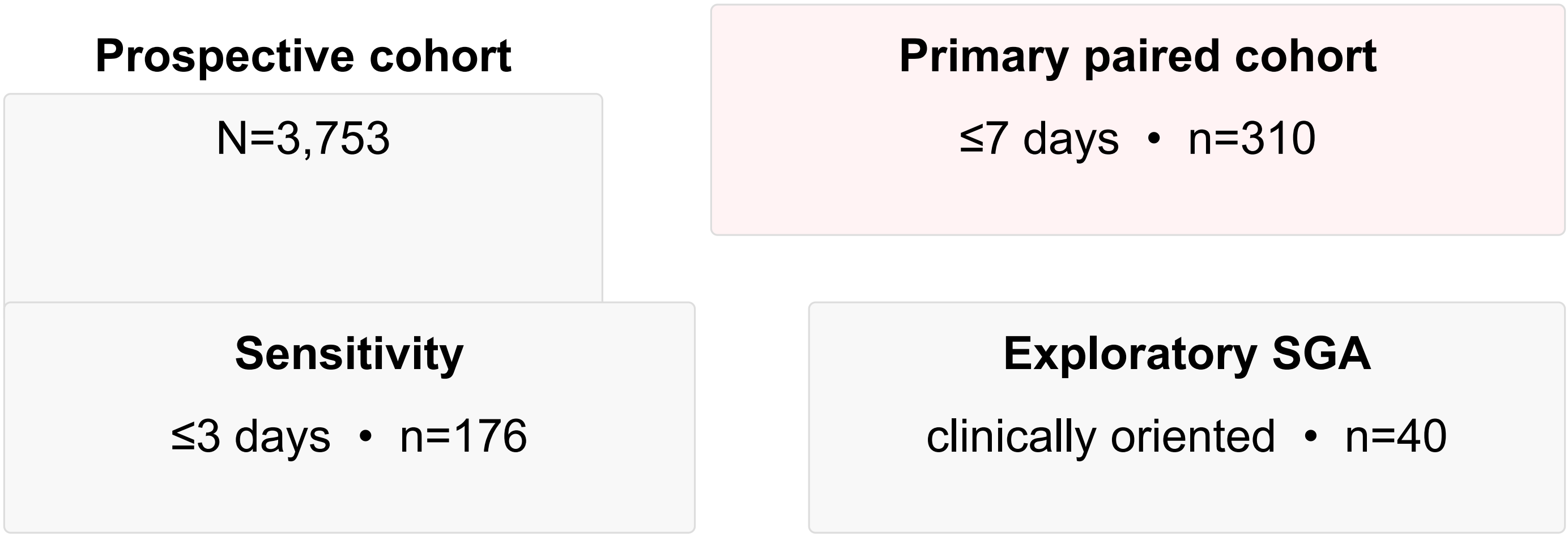
Introduction & Objective

- Accurate ultrasound estimated fetal weight (EFW) informs SGA/FGR diagnosis, counseling, and delivery planning.
- Formula performance differs across populations.
- Shinozuka was developed from Japanese fetal/neonatal data; Hadlock-3 is used globally.
- Objective: compare near-delivery accuracy in a Japanese multicenter cohort.

Methods

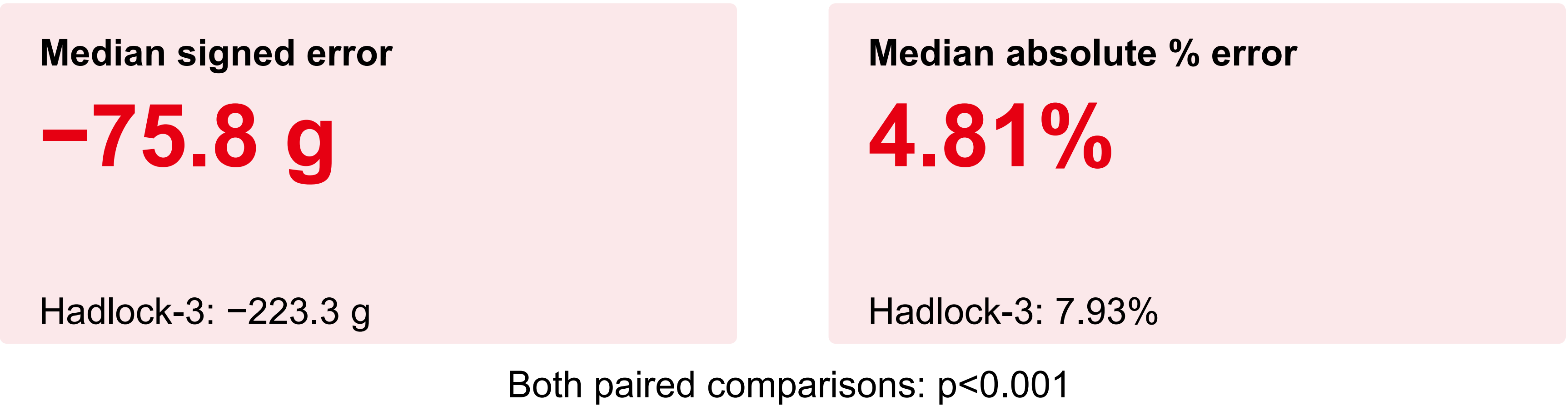
- Secondary analysis of a prospective multicenter Japanese cohort.
- Ultrasound by certified sonographers or under supervision.
- Paired EFW was calculated with Shinozuka and Hadlock-3.
- Analysis sets: ≤7 days (n=310), ≤3 days (n=176), and exploratory SGA subgroup (n=40).
- Outcomes: signed error, absolute % error, and proportion within ±10% of birth weight.

Analysis sets

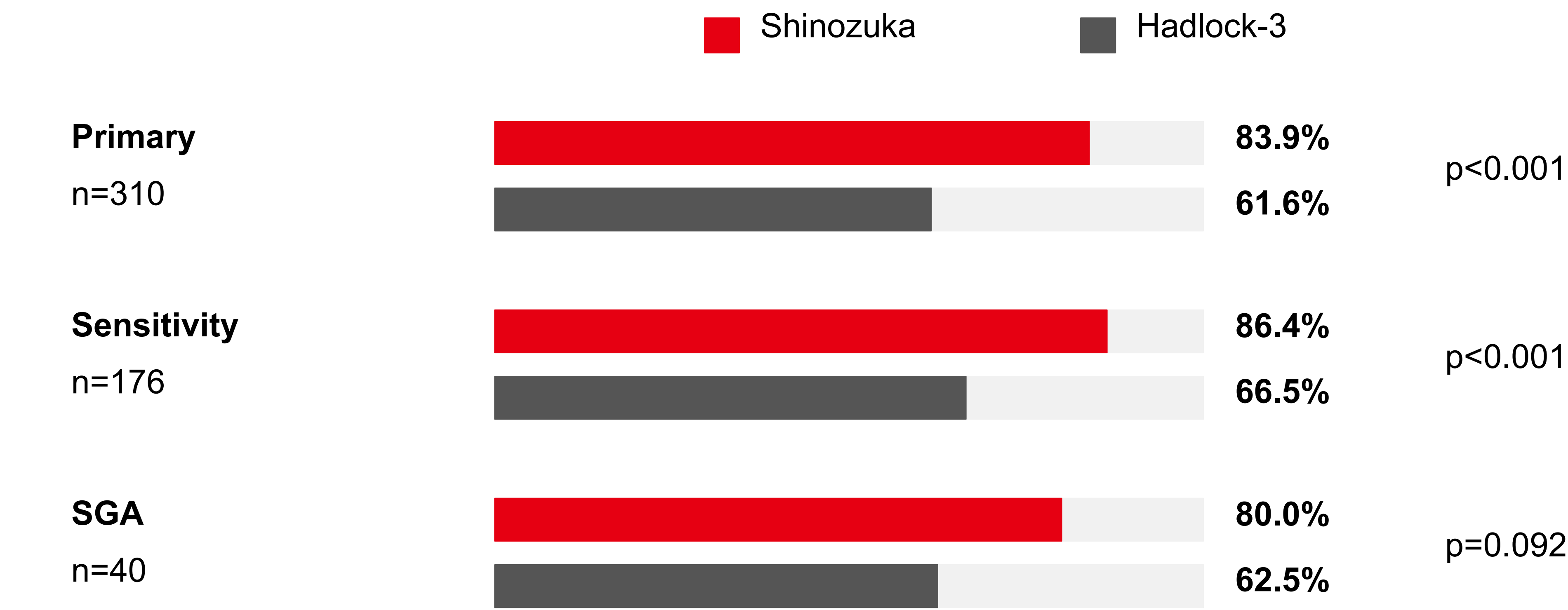


Results

Primary analysis (≤7 days, n=310)



EFW estimates within ±10% of birth weight



Clinical interpretation

Hadlock-3 showed greater systematic underestimation. Near delivery, formula choice may affect EFW-based classification and delivery planning.

TAKE-HOME

PRIMARY ANALYSIS

83.9%

within ±10% of birth weight

vs 61.6% with Hadlock-3

+22.3 percentage points

more estimates within ±10%

KEY PATTERN

Shinozuka was closer to birth weight.
Hadlock-3 showed greater underestimation.

CONCLUSION

In Japanese pregnancies examined near delivery, the population-specific Shinozuka formula provided more accurate EFW than Hadlock-3.

Population-specific formulas should be considered when locally validated.