

SGA related stillbirth risk according to GROW vs INTERGROWTH-21st fetal weight standards

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Objectives

- Ultrasound estimated fetal weight (EFW) is central to antenatal surveillance yet there is no nationally agreed standard to define small for gestational age (SGA).
- We compared stillbirth risk for SGA by the Intergrowth 21st (IG21)¹ fetal weight standard based on pregnancies from 8 countries, with SGA by the GROW² fetal weight standard, customised to the NHS population and to individual maternal characteristics.

Methods

- We studied a cohort of 117,027 consecutive singleton pregnancies between 2022-2024 which had one or more third trimester scans, selecting the last scan result for the analysis.
- EFWs were calculated by the Hadlock-3 formula.
- We determined the number and proportion of fetuses SGA (<10th centile) by GROW and IG21, compared to pregnancies not SGA by either standard, by relative risk (RR) of stillbirth and 95% confidence interval (CI).

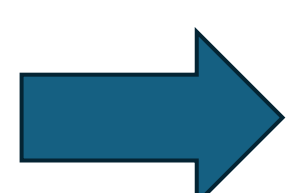
Results

The median gestational age was:

- 37+0 weeks at last scan
- 39+2 days at delivery

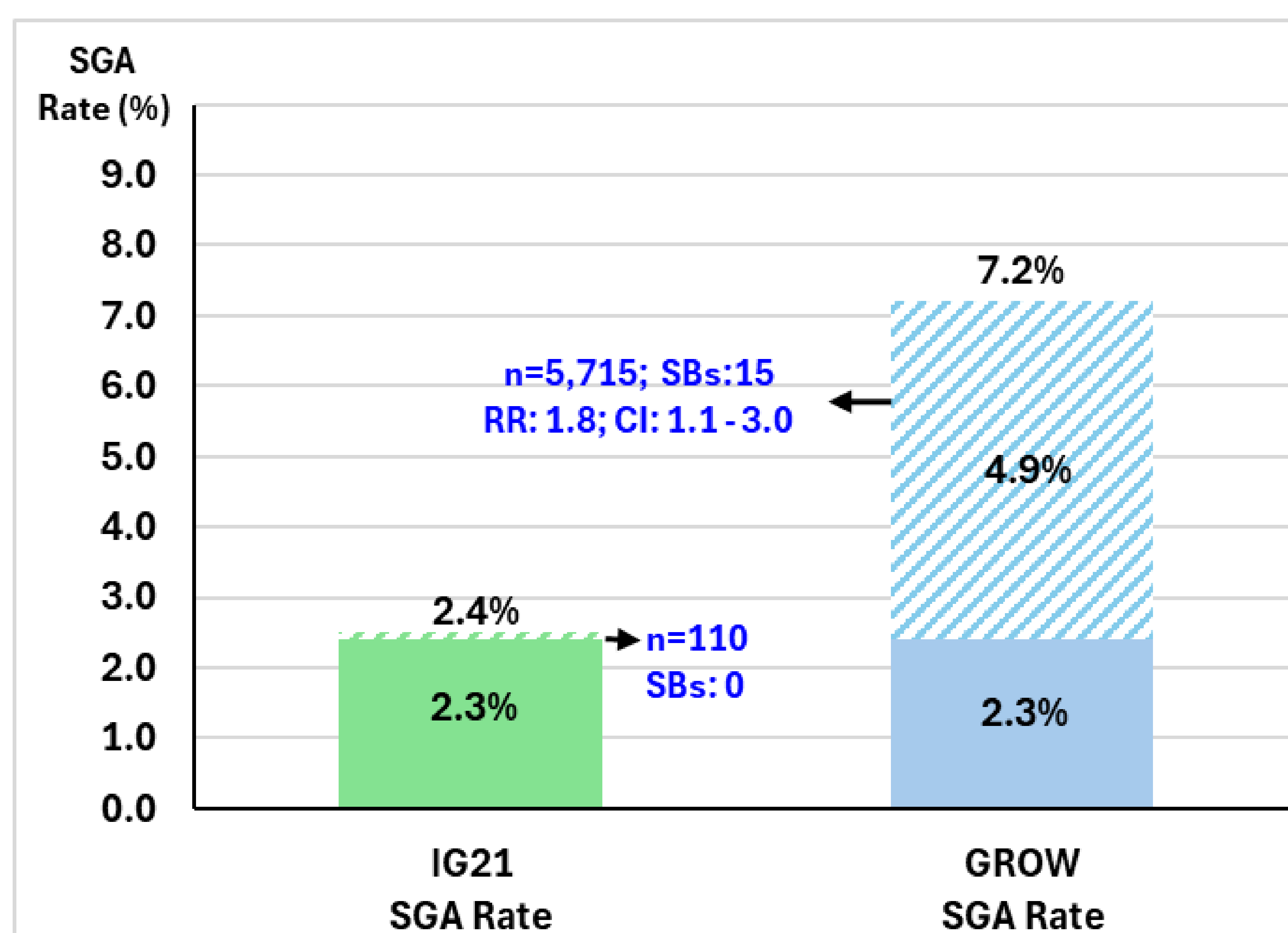
Fetuses defined as SGA according to:

- IG21: 2785 (2.4%)
- GROW: 8390 (7.2%)



- Of the IG21-SGA cases, 2675 (96.0%) were also SGA by GROW, with stillbirth RR 3.8 (CI 2.3-6.5)
- There were no stillbirths in the 110 cases that were SGA by IG21-only
- The additional 5715 (68.1%) pregnancies that were SGA by GROW-only had significantly increased stillbirth risk: RR 1.8, CI 1.1-3.0.

SGA Rate by IG21 vs GROW and stillbirth risk



SGA, small for gestational age; IG21, Intergrowth-21st; GROW, gestation-related optimal weight; SB, stillbirth; RR, relative risk; CI confidence interval

Conclusion: The INTERGROWTH-21st fetal weight standard fails to identify over two-thirds of cases that are SGA according to GROW and at significantly increased risk of stillbirth.

References

1. Stirnemann J, Villar J, Salomon LJ, Ohuma E, Ruyan P, Altman DG, et al. International Estimated Fetal Weight Standards of the INTERGROWTH-21st Project. Ultrasound Obstet Gynecol. 2017;49(4):478–86. <https://doi.org/10.1002/uog.17347>
2. Gestation Related Optimal Weight - GROW 2.0.6.3 Perinatal Institute, 2022. <https://www.perinatal.org.uk/GROW2.0/>