Fetal growth charts and avoidable deaths - 16th April 2025 test

Our GAP clinical team have in recent weeks been receiving an increasing number of requests for advice from non-GAP sites reviewing stillbirths associated with fetal growth restriction. Sadly, many of these deaths appeared to be avoidable, with a common theme that the pregnancy was not recognised as being at risk because of the use of various population based or 'universal' fetal growth standards.

This follows on from last year's publication of the new **Green-top Guideline** for SGA and FGR (GTG-31, 2024) in which, after 2 decades recommending use of customised charts (GTG-31, 2002, GTG-31, 2013), the current authors decided not to endorse *any* chart. Instead, maternity service providers are being asked to ***".....evaluate the impact of different reference charts in their local population..."*** (GTG Section 7.2).

The problem with this approach is that

- Such 'evaluation of impact' is unlikely to produce reliable evidence if based on the relatively small number of adverse outcomes at local level. Furthermore, it is becoming evident that such experimentation can result in unintended consequences, and parents ought to be made aware that this is the case.
- Service providers are being invited to try different charts and adjust cut-offs for SGA/FGR and LGA to what 'seems about right' for their population. However, such cut-offs may not be the same for the rest of the network or the country, and the chart stops being a 'standard': if the expecting mother moves elsewhere in the NHS, the risk status of her pregnancy may change.
- Several of the population based fetal weight standards reviewed in GTG-31 (2024) do not even extend past 40+0 weeks. This has now been recognised, but not after at least one recent stillbirth with FGR, after sonographers were unable to calculate the EFW centile from a post-dates scan.

The guideline authors' recommended approach is also puzzling as they already acknowledge GROW as a standard that can be used without customisation for maternal variables and then defaults to a UK population standard based on 2.7 million low risk NHS pregnancies (GTG-31, 2024, Section 7.2.1.4). Furthermore, the GROW fetal weight standard extends to 42 weeks, and is consistent and contiguous with the GROW birthweight standard.

But for those who want to personalise GROW for their patients for variables such as maternal size, there is strong evidence in support:

- Compared to customised assessment, 'universal' or 'population based' one-size-to-fit-all fetal weight standards (e.g. Hadlock, WHO, Intergrowth21st) miss the SGA associated increase in stillbirth risk in obese women and over-diagnose SGA in low BMI women. This was confirmed in an analysis of over 2.2 million NHS pregnancies (AJOG 2023). The study was first published a full year before GTG-31 (2024) yet not included in its evaluation.
- The Intergrowth birthweight standard misses SGA cases associated with adverse neonatal outcomes: AJOG-MFM, 2022 (study also not included in GTG-31, 2024). More

recently, analysis of data from 145 NHS maternity units found that the Intergrowth fetal weight standard would miss 68% of cases with SGA related stillbirth risk that are identified by GROW (UOG 2025).

- A further concern is slow growth being missed by the '2 quartile (50 centile) drop' definition used in GTG-31, 2024; this occurs rarely between third trimester scans, compared to the projected optimal weight range (POWR) method to identify slow growth which is independent of the growth chart used. This study (UOG 2023) was also published a year before GTG-31, 2024, but regrettably not included.

This email is being sent to all GAP as well as non-GAP NHS units. As a not-for-profit social enterprise, it is the Perinatal Institute's mission to reduce preventable adverse pregnancy outcome.

We are inviting all interested to a short-notice, 1-hour Teams meeting **on Wednesday 16th April 1-2pm,** to present the key evidence and provide opportunity for an extended Q&A. We will also invite the lead authors of the current Green-top Guideline to discuss whether it could be updated to address these patient safety concerns.

To register, please respond to this mail with your **name, position and organisation**, and you will be sent the link - attendance is free.

With sincere regards,

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