

EP.0496: Is scan accurate in estimating birth weight after 37 weeks?"

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Objective

To determine accuracy of scan in predicting fetal birthweight after 37week gestation (GA) in women with BMI less than 35

Design

A retrospective audit of women BMI<35, delivering within 2 weeks of growth scan after 37 weeks in singleton pregnancies in a single institution.

Methodology

- Women delivered > 37wks
- 25 months’ time period.
- Growth scan within 2wks of delivery
- Exclusion: Delivery < 37weeks GA, multiple pregnancy, and maternal BMI>35
- Analysis of Maternal characteristics, Estimated fetal weight (EFW) on scan and birth weight (Bwt), interval between scan & delivery and operators.
- Percentage (%) difference in weight calculated as {(Bwt-EFW)/EFW} x100.
- Primary outcome: How many of our scans fell withing +/-10% and +/-15% of the Bwt within 2 weeks and 1 week of delivery
- Secondary outcomes include % Wt difference related to interval between scan & delivery, maternal BMI and the sonographer

Results

- 451 out of 115 women fulfilled inclusion criteria
- Mean Maternal BMI: 25.1
- Range GA at delivery: 37-42wk
- Median Interval between scan & delivery: Day 8
- Mean weight error: 460.5 g. SD 236.9.
- 213 women delivered within one week
- No major difference detected between scan interval, % weight difference, maternal BMI and the different sonographers

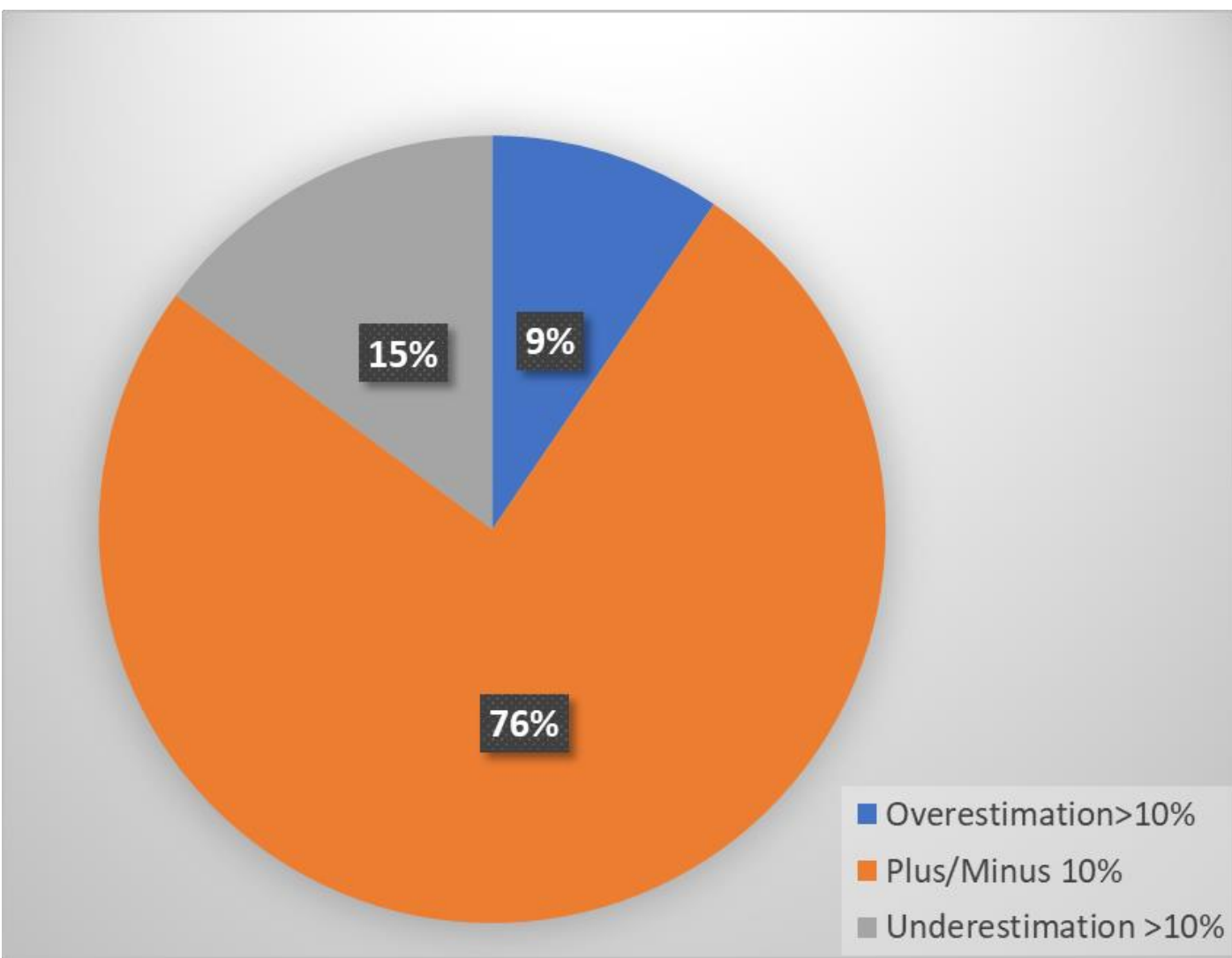


Fig 1. Scan accuracy +/-10% delivered with 2 wks

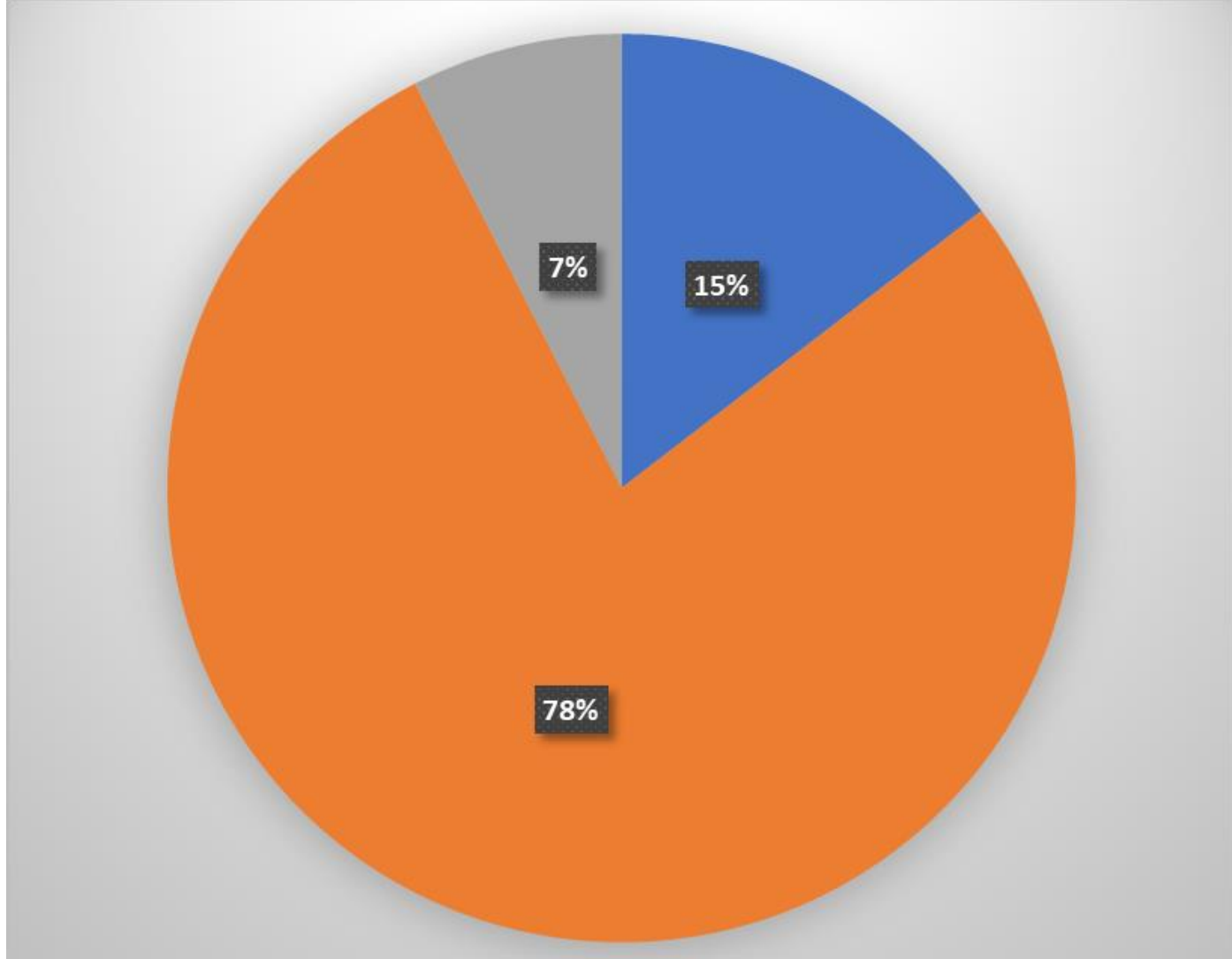


Fig 2. . Scan accuracy +/-10% delivered with 1 wk

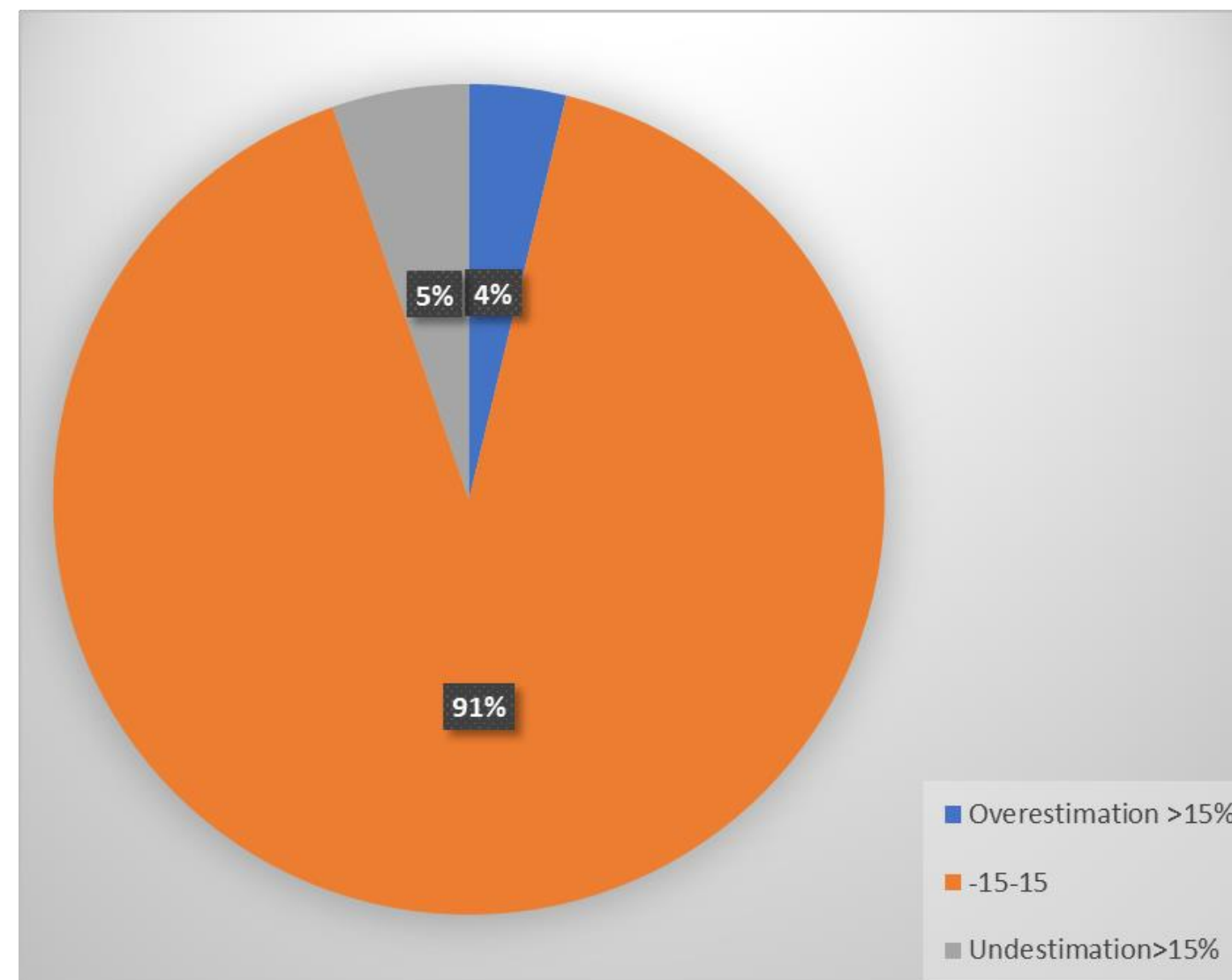


Fig 3 . Scan accuracy +/-15% delivered with 2 wks

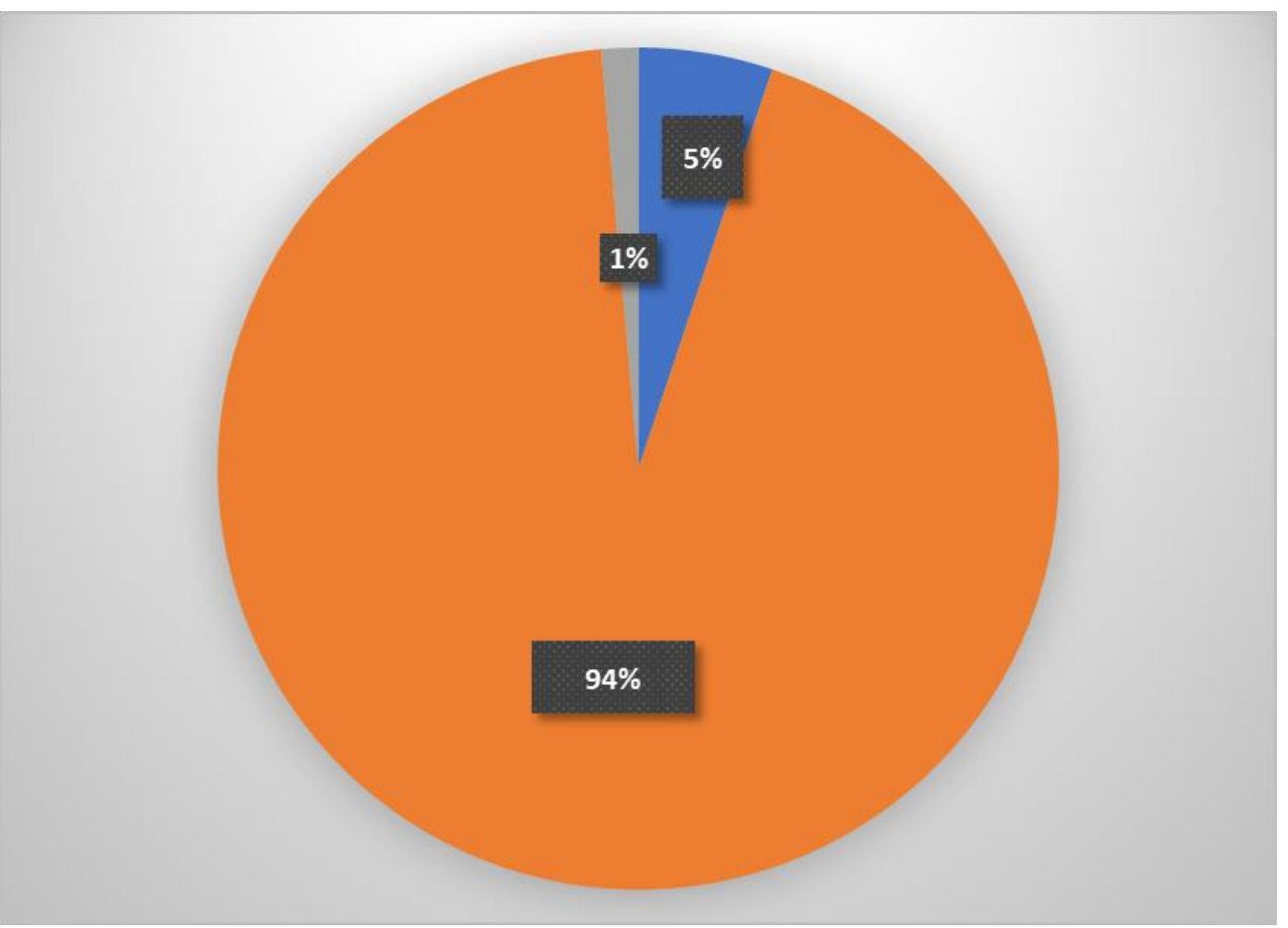


Fig 4 . Scan accuracy +/-15% delivered with 1 wk

Difference EFW & BWT	No. of deliveries	% difference
<-1000g (overestimation)	1	0.22%
-1000g – -751g	1	0.22%
-750g – -501g	17	3.77%
-500g – -251g	56	12.42%
-250g – -1g	143	31.70%
0g – -249g	127	30.38%
250g – 499g	82	18.18%
500g – 749g	17	3.77%
750g – 1000g	6	1.33%
>1000g (underestimation)	1	0.22%
Grand Total	451	100%

Fig 5. Crude weight difference delivered in 2 wks

Conclusion

- Scans done >37wks can accurately predict upto 91% +/-15% of Bwt in women BMI <35
- This study adds to literature on reliability of obstetrics scans >37weeks GA; giving clinicians confidence when counselling women and making clinical decisions.
- Limitations include restriction of maternal BMI and the use of crude and percentage weight difference instead of centiles.
- We propose to look at the EFW centile & compare them with Bwt centiles, clinical decisions made on the extreme centiles and scan accuracy in women of different BMIs to widen our applicability.

References

1. Saving Babies Lives Bundle 2
2. www. Perinatology.com (Accessed Oct 2022)