Influence of different cerebroplacental ratio charts in the predictability of late intrauterine growth restriction.

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Objective
To analyze the influence of different reference charts for cerebroplacental ratio (CPR) in the third trimester predictability of intrauterine growth restriction (IUGR).

Materials and methods
We prospectively analyzed neonatal and pregnancy outcomes of 46 singleton pregnancies that have performed a third trimester growth scan in a third level Clinic of North-East Italy focused on assessing pregnancies with high risk of intrauterine growth restriction development. The included pregnancies were all singleton consecutive pregnancies. The fifth centile, the percentile, and the MoM value were calculated according to previously published CPR charts [1-4].

Results
Mean gestational age at ultrasound examination was 35 weeks (IQR 34-36) while the median gestational age at delivery was 39 weeks (IQR 37-39). CPR was significantly lower in IUGR than AGA controls. The MoM values had an area under the ROC curve (AUC) to predict IUGR of:
- 83.14% (71.7%-94.58%) [3],
- 81.71% (69.78%-93.65%) [4],
- 80.38% (67.98%-92.78%) [1],
- 80.19% (67.85%-92.53%) [2].

The CPR values less than the fifth centile had an AUC of:
- 67.05% (55.71%-78.39%) [3],
- 66.67% (56.34%-77%) [2],
- 64.29% (54.39%-74.19%) [1],
- 61.9% (52.57%-71.24%) [4].

The AUC of the MoM values were significantly more predictive than CPR under the fifth centile (p<0.05).

Conclusion
Considering MoM values or the CPR values less than the fifth centile no significant differences were found between different reference charts, however MoM values were significantly more predictive than CPR values less than the fifth centile.

References