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Introduction and objective

- Hyperglycemia in GDM is related with fetal macrosomia, as are obesity and excessive maternal weight gain during pregnancy. The relevance of GV in birth weight is not clear.
- The goal of this study is to determine the relationship between GV and birth weight in pregnant women diagnosed of GDM.

Methods

- This prospective study included pregnant women with GDM, according to the NDDG criteria, followed in the same hospital between January 2012 and June 2015.
- Patients were asked to test blood glucose four times a day (fasting and 1 hour postprandial) and data were directly downloaded from Accu-Check® Aviva (Roche) glucometers. Main exclusion criteria were twin pregnancy and previous diagnosis of type 1 or type 2 diabetes.
- To analyze GV we considered the standard deviation (SD), the coefficient of variation (CV) and interquartile range (IQR).^{1,2,3} Birth weight and pregnancy and perinatal outcomes were studied.

Results



- N = 310 pregnant women with GDM
- Mean age was 34.1 ± 4.6 y
- Pre-pregnancy BMI was 26.8 ± 5.6 kg/m²



- GDM diagnosed at 26.9 ± 6 weeks of gestation
- Mean follow up: 57.5 ± 41 days
- An average of 170.5 blood glucose measurements per patient were obtained

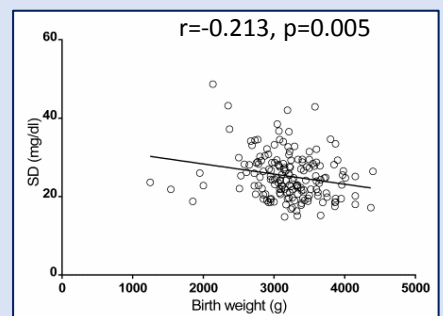


- Cesarean section rate: 17.4%
- Mean birth weight: 3,222 ± 461 g
- Median customized weight percentile: 51.6 ± 28.2
- 10.3% large for gestational age

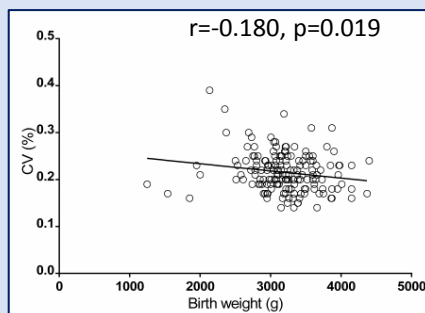
SD, CV and IQR had a **negative correlation** with birth weight **in the group treated with insulin** (54.8% of the women), showing no relationship in the group treated only with diet.

When controlling for pre-pregnancy BMI and weight gain during pregnancy, the correlation remained.

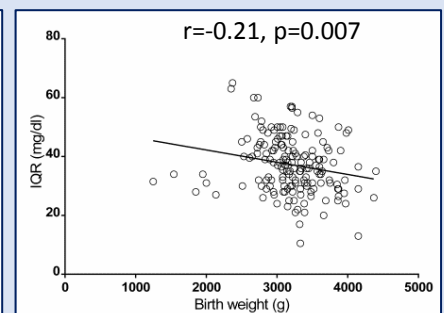
Correlation (SD)



Correlation (CV)



Correlation (IQR)



Conclusion

Glycemic variability in insulin-treated GDM appears to be related to less birth weight

References

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