Maternal total adipose tissue (mTAT) measured by ultrasound and correlations with fasting glucose during first half of pregnancy

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Introduction
Measurement of maternal adipose tissue during the pregnancy has been shown to be better to predict disglycemia during pregnancy than body mass index (BMI).

However, there is mixed findings about which measurement is better regarding to visceral adipose tissue (VAT) or total adipose tissue (TAT).

Methods
Cross-sectional findings from a cohort study was conducted in Brazil

VAT was measured at 2cm above of the maternal umbilical scar with the probe in a sagittal position and electronic caliper placed from linea Alba to anterior aortic wall.

SAT was measured at same position with electronic caliper placed from linea Alba to dermal edge of superficial skin.

TAT was calculated from the sum between VAT and SAT.

Conclusions
Our findings suggest that periumbilical TAT measurement during the first half of pregnancy is correlated with high levels of fasting glucose. This measure can contribute to early identification of dysglycemic risk pregnancies.

Results

- 95 patients in the first 20 weeks of pregnancy. The mean age was 26 ± 6.5 yo, TAT was 64.2 ±18.9 mm. VAT was 46.1 ±15.9 mm. Fasting glucose during first half of pregnancy shows a mean of 79.9 ± 8.7 mg/dl. The mean prepregnant BMI was 26.7 ± 6.1 kg/m2.

- TAT distribution among quartiles and fasting glucose levels showed significant difference between first quartile (TAT ≤ 50.9 mm and mean fasting glucose = 76.6 mg/dl) and fourth quartile (TAT ≥ 73.6 mm and mean fasting glucose = 85.2 mg/dl) with p -value = 0.04.