Measurement of visceral adipose tissue during pregnancy are correlated with birth weight:
preliminary results

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Introduction
The prediction of birth weight is currently evaluated during the third trimester of pregnancy by fetal biometry. During the early stages the use of maternal BMI (body mass index) or fetal biometry has proven useless to this task.

Our objective was to evaluate the correlation between the ultrasound measurements of maternal visceral adipose tissue (mVAT) and newborns weights in a set of low risk outpatient clinic.

Methods
A cohort study was conducted in Brazil with 106 pregnant women.

mVAT measurements were performed after 20 weeks with electronic calipers positioned from maternal superficial liver left lobe to linea alba with the probe placed at central epigastric region.

During the first twenty weeks, beside the technique cited, we performed the measurement of space from maternal inner border of the rectus abdominis muscle, at the level of the linea alba, to the anterior wall of the abdominal aorta with the probe sagittally placed at 2cm above umbilical scar.

Prepregnancy BMI was obtained from current height and the first weight registered in pregnancy chart.

The observed birth weight was standardized according expected weight

Conclusions
Newborn weight z-score was negatively correlated with both measures of mVAT and with BMI values; however, the performance of ultrasound was better than the maternal BMI.

Our results, centered in a low risk outpatient setting, reproduced reports from high risk setting about periumbilical mVAT.

The newborn weight was better predicted using mVAT ultrasound than prepregnant maternal BMI.