Amniotic fluid “sludge” as a risk factor for fetal growth restriction
Hatanaka AR, Franca MS, Hamamoto T, Nardozza LMM, Nomura RM, Rolo LCR, Mattar R, Moron AF
Federal University of São Paulo, São Paulo, Brazil

Objective
To evaluate the influence of amniotic fluid “sludge” (AFS) on Intra-Uterine Fetal Growth Restriction (IUGR).

Methods
A prospective cohort study was conducted on 319 singleton pregnancies with gestational age between 16th and 26th weeks. Maternal demographic characteristics, cervical length and the presence of AFS were evaluated. The presence of IUGR was considered when the afterbirth weight was under the 10th centile of Hadlock normality curve.

Results
The incidence of AFS was 22.9% (73/319) and cervical length < 25mm 18.2% (58/319). Of the 319 pregnancies, it was not possible to obtain perinatal results of 25 patients and 3 were born before 24 weeks so they were excluded. IUGR was observed in 12.0% (35/291) of the newborns. IUGR was more frequent in the amniotic fluid “sludge” group (22.5% (16/71) vs 8.6% (19/220), p =0.001), and in the body mass index (BMI) < 20 group (17.1% (6/35) vs 4.7% (12/256), p = 0.004). In deliveries < 37 weeks, the presence of AFS was associated with IUGR resulting from placental insufficiency (40.0% (8/20) vs 15.6% (7/45), p =0.031). Stepwise logistic regression was performed to compare variables. AFS (OR: 3.12 95% CI: 1.48 – 6.55, p =0.003) and BMI < 20 (OR: 4.31 95% CI: 1.45 – 12.79 p =0.008) were independent risk factors for IUGR.

Conclusion
The presence of amniotic fluid sludge in the second trimester, evaluated by transvaginal ultrasound, is an independent risk factor for IUGR. In deliveries < 37 weeks AFS is associated with IUGR and placental insufficiency.