EP20.08. Correlation of Brain-Derived Neurotrophic Factor (BDNF) amniotic fluid levels with fetal sex in pregnancies with small for gestational age (SGA) fetuses.
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Introduction
Based on previous research of our Unit highlighting the role of BDNF in adaptive mechanisms protecting fetuses with growth restriction, we aimed to investigate a possible correlation between amniotic fluid concentration of this neurotrophin and fetal sex.

Methods
From amniotic fluid collected for several indications, only samples from fetuses with normal karyotype were retained. After birth samples from pregnancies ending up with SGA (less than 10th centile) neonates were selected to determine BDNF concentrations. In total 29 samples were included to our study. The majority of samples (19 out of 29) were of gestations with female fetuses, as expected, and the remaining (10 out of 29) was of male fetuses. Statistical analysis was performed using the SPSS statistical package and level of significance was set at 0.05.

Results
Mean BDNF concentration in pregnancies with male SGA fetuses was 34.5 pg/ml and of those with female SGA fetuses was 35.9 pg/ml. This difference was not statistically significant (P-value=0.37). In the subgroup of severe SGA fetuses (less than 3rd centile) this difference was even higher between male (5 samples) and female (5 samples) fetuses, 37.1 pg/ml and 44.5 pg/ml respectively, though still not statistically significant (P-value=0.37). In the analysis of severe SGA fetuses the number of cases was relatively small (5 cases each group) to detect a possible difference.

Conclusion
Fetal smallness is associated with female gender and in our population most SGA fetuses were females as well. Nevertheless, BDNF is known to be increased in the amniotic fluid of SGA fetuses and even more in cases of severe SGA fetuses. This was also confirmed from our results. Our study could not detect a statistical difference in BDNF concentrations between male and female SGA fetuses, though in female SGA fetuses, and especially in severe SGA fetuses, the production and secretion of this neurotrophin seems to be induced. There are data supporting no association between fetal gender and adverse perinatal outcome in intrauterine growth restricted pregnancies. The latter evidence seems to be consistent with our findings of no significant difference.