2nd Central - Eastern European Symposium on Free Nucleic Acids in Non - Invasive Prenatal Diagnosis
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Y-STR kit, paternity testing was successfully performed for all 20 cases.

Conclusion. Centricon® and Microcon® centrifugal filter devices efficiently concentrate cfDNA which is quite important for successful prenatal paternity testing. Although amount of fetal cfDNA present is a small fraction of the maternal cfDNA, fetal cfDNA can be successfully amplified by Y-STR kits since primers are Y-chromosome specific so they do not bind maternal DNA. However, for the same reason this type of analysis cannot be performed for female fetuses and autosomal STR analysis is not an option either due to the allelic suppression by maternal DNA. PowerPlex® Y23 System appears to be more sensitive than Yfiler® PCR Amplification Kit. With additional loci, new kit provides maximum discrimination. Even when few loci were not amplified it was informative enough to provide reliable paternity test results.

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OP-8
Extracellular nucleic acids in maternal circulation as potential biomarkers for placental insufficiency
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Since the placenta is being continuously remodelled during normal placentation development, extracellular nucleic acids of both fetal and placental origin, packed into trophoblast-derived apoptotic bodies or in shedding syncytiotrophoblast microparticles, may be detected in maternal circulation during the course of normal gestation. Placental insufficiency related pregnancy complications have been shown to be associated with excessive placent al trophoblast apoptosis and shedding of placenta debris. Recent advances in the field are reviewed with a focus on the diagnostic potential of particular molecular biomarkers (SRX, DYS-14, hypermethylated RASSF1A sequence, placental specific microRNAs) and their eventual implementation into the currently used predictive and diagnostic algorithms for placental insufficiency related pregnancy complications.

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