Are Placental Cell-Derived Exosomes a Predictive Biomarker of Preeclampsia?

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Abstract

Placenta is endocrine organ that regulate biological function of several maternal tissues and the majority of fetal organs across gestation through releasing of extracellular vesicles incorporated into secretom [1]. Indeed, circulating number of exosomes derived from placenta cells in healthy pregnancies increases in 50-100 fold times to healthy volunteers and they may be detected in several biological fluids across all gestation age starting with 6 weeks of gestation. Interestingly, asymptomatic pregnant woman at risk of preeclampsia may demonstrate extremely increased levels of total exosomes and placental cell-derived (CD63+)-exosomes (PCDE) in blood when compared with woman at risk free of preeclampsia. Taking into consideration this fact, measure of circulating number of placental cell-derived-exosomes could be an individual probe for personification of a risk of life-threatening event across pregnancy. The short communication is depicted the role of placental cell-derived-exosomes as biomarker of preeclampsia in asymptomatic pregnancies.

Keywords: Pregnancy; Preeclampsia; Exosomes; Vascular complications; Prediction, Biomarkers

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