

International Conference on Innate Immunity

July 20-21, 2015 Barcelona, Spain

Prediction of preeclampsia with novel biomarkers at second trimester of pregnancy

Amal Mahmoud Kamal Eldin, Ahmed Abdel Samie Omran, Ashraf Mohammed Mohammed Osman, Yasser Makram ElSherbeeny, Maged Salah, Ahmed Kotb and Mahmoud Mohammed Moussa Minia University, Egypt

Objective: To evaluate the ability of the soluble vascular endothelial growth factor receptor (sFlt-1), neutrophil-flt-1, monocyte-flt-1, pentraxin3 (PTX3), nitric oxide (NO) and alpha fetoprotein (AFP) measurements at gestational weeks 14-18 to predict preeclampsia (PE).

Subjects & Methods: Fifty pregnant females at second trimester of pregnancy divided into 25 normotensive pregnant females who remained normotensive till delivery (group I) and 25 high risk pregnant females who subsequently developed PE (group II). Twenty five healthy non-pregnant females served as control (group III). Maternal blood samples were collected at 14-18 gestational weeks. EDTA samples were investigated for both neutrophil- and monocyte-flt-1 by flowcytometer. Stored serum samples were analyzed for sFlt-1, PTX3, NO and AFP by ELISA.

Results: Alpha fetoprotein, sflt-1 and pentraxin 3 were found to be statistically significantly increased in group II when compared with group I (P-value = 0.024, < 0.001 & 0.006) and group III (P-value = < 0.001). However, there was statistically significant decrease in neutrophil-flt-1 and nitric oxide in group II when compared with group I (P-value = < 0.001 & 0.016). Group II had significant negative correlation between soluble flt-1 and both neutrophil- & monocyte-flt-1 (P-value = < 0.001 & 0.009) and between neutrophil-flt-1 and PTX3 (P-value = 0.007). Soluble flt-1 was found to have the highest predictive value for predicting preeclampsia (AUC = 0.941& P-value = < 0.001)

Conclusion: Soluble flt-1 was the best single biomarker to predict preeclampsia at second trimester of pregnancy with the best diagnostic sensitivity and specificity.

amlkoktail@yahoo.com

Notes: