

Elevated serum level of interleukin-10, interleukin-16 and human chorionic gonadotropin in pre-eclampsia

Objectives: to investigate the relationship between interleukin-10, interleukin-16 and human chorionic gonadotropin β -hCG blood levels in normal pregnancy and pre-eclampsia and their association with disease severity and calculate the accuracy of these markers in diagnosing the disease and its severity.

Study design: cross-sectional study.

Participant and methods: the study was conducted at Al Fayoum University between December 2006 and September 2007. 32 nulliparous women with preeclampsia (pre-eclamptic group) scheduled for cesarean section (CS) were recruited and matched for age and gestational age with 30 nulliparous normotensive pregnant women (control group). Among preeclamptic women, 18 were diagnosed with severe preeclampsia and 14 mild preeclampsia. Blood sampling was performed for assaying serum levels of IL-10, IL-16 and β -hCG.

Results: Maternal serum concentrations of IL-10, IL-16 and β -hCG were significantly greater in preeclamptic women in comparison to normotensive pregnant women ($p < 0.001$). Moreover, they were significantly higher in severe pre-eclamptic cases than mild cases ($p < 0.001$). Furthermore, there was a positive correlation between β -hCG, IL-10 and IL-16 in the maternal serum among all groups. β -hCG has a sensitivity, specificity, +ve predictive value, -ve predictive value and overall accuracy of 86.20%, 91.43%, 80.71%, 79.07% and 74.73% respectively. These values for IL-10 were 94.44%, 89.8%, 77.27%, 97.78% and 91.04% respectively. For IL-16 the values were 88.89%, 90.92%, 88.89%, 90.92% and 94.03% respectively.

Conclusion: IL-10, IL-16 and β -hCG blood levels were significantly increased in preeclamptic women in comparison to normotensive women and were correlated with disease severity. However, IL-10 and 16 have an overall accuracy better than β -hCG in diagnosing severe pre-eclampsia.