



The role of Interleukin-17 and Interleukin-23 in the pathogenesis of pre-eclampsia

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Objective

The purpose of the study was to estimate the concentrations of Interleukin-17 (IL-17) and Interleukin-23 (IL-23) in sera of patients with pre-eclampsia and healthy normotensive women with uncomplicated pregnancy.

Methods

The study includes 34 patients with pre-eclampsia and 35 healthy normotensive women in second and third trimester of uncomplicated pregnancy. The concentrations of Interleukin-17 (IL-17) and Interleukin-23 (IL-23) were measured with the use of immunoenzymatic assay.

Results

In the group of patients with pre-eclampsia the sera concentrations of IL-17 were significantly higher when compared to the control group ($p < 0.05$). Furthermore, it has been observed that in women with pre-eclampsia, the concentrations of IL-17 were positively correlated with systolic blood pressure ($R = 0.42$). No significant differences were found in the concentrations of IL-23 between patients with pre-eclampsia and the control group (NS). In the group of healthy pregnant women the concentrations of IL-17 correlated positively with weeks of pregnancy ($R = 0.55$). On the other hand, the concentrations of IL-23 correlated negatively with weeks of pregnancy ($R = 0.45$) in the control group.

Conclusion

The increased concentrations of Interleukin-17 in patients with pre-eclampsia suggest escalated inflammatory response of Th17 lymphocytes in the pathomechanism of pre-eclampsia as the consequence of inadequate tolerance toward fetal antigens of paternal origin. The concentrations of IL-17 increase gradually during uncomplicated pregnancy - it suggests the increase of inflammatory response with the development of physiological pregnancy. The concentrations of IL-23 gradually decrease during pregnancy and are comparable in healthy and pre-eclamptic women. The higher concentrations of IL-23 at the beginning of pregnancy may suggest its role in the process of an implantation and invasion of trophoblast.