

IL-12 concentration in the aqueous humor and serum of diabetic retinopathy

Antonela Gverovic Antunica

Dubrovnik General Hospital, Croatia

Previous studies suggest that inflammation plays an important part in pathogenesis of diabetes. Cytokines may have a role in both positive and negative control of immunological reactions. Among many cytokines, interleukin 12 (IL-12) is known to be a strong pro-inflammatory cytokine.

A total of 76 participants were enrolled in this study and classified in 4 groups: 23 diabetic patients with non-treated retinopathy, 17 diabetic patients with treated retinopathy, 12 diabetic patients without retinopathy, and 24 healthy control patients. Serum and aqueous humor samples were taken for the analysis of IL-12 concentration. There was a significant difference between the groups in IL-12 concentrations in the aqueous humor ($\chi^2(3, N=76)=27.137$; $p=5.5 \times 10^{-6}$), with highest values measured in the non-treated diabetic retinopathy group (12,40 pg/mL). No significant differences in IL-12 serum concentrations between the groups were found ($F=0.405$, $P=0.750$). Correlation analysis of IL-12 concentrations in the serum and aqueous humor showed a linear association between the two variables only in non-diabetic patients ($P=0.003$).

To the best of our knowledge, this is the first study to show a significantly higher concentration of pro-inflammatory cytokine IL-12 in the aqueous humor of non-treated diabetic retinopathy patients in comparison with diabetic patients treated for retinopathy, diabetic patients without retinopathy or with healthy individuals.

Because the serum levels of IL-12 did not differ considerably between the studied groups, it is plausible that this is due to its local production and secretion

Biography

Antonela Gverović Antunica graduated from the University of Zagreb School of Medicine in Croatia at the age of 23. She obtained Doctor's degree/PhD with the thesis IL12 concentration in the humor aqueous and serum of diabetic retinopathy patients. As a 2006, year she is a Head of Ophthalmology Clinic at the Dubrovnik General Hospital. Retinal diseases are area of her expertise. She published more than 20 papers in periodicals of which 5 in current contents.

agantonela@net.hr