Title: No association between Interleukin 27 promoter gene polymorphism and risk of type 1 diabetes in the Azerbaijan, Northwest Iran

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Abstract: Introduction: Interleukin 27 (IL-27) is a newly discovered cytokine, consists of two subunits, the Epstein-Barr virus-induced gene 3 (EBI3) and p28. It can promote both anti- and pro-inflammatory immune responses, also TH1 differentiation. IL-27 has been linked to the activation of CD8+ T cells and promotion humoral responses. Therefore, it has been proposed that IL-27 plays a potential role in autoimmune diabetes. However, data regarding to the role of IL-27 in autoimmune diabetes are scarce. Thus, the aim of this study was to investigate p28 gene -964 A>G polymorphism in Type 1 diabetes mellitus (T1D) compared to healthy control group.

Method: DNA was extracted from blood samples of 156 T1D patients and 179 sex, age and ethnically matched healthy controls. Flanking region of -964 position of the IL-27 p28 subunit encompassing 468 bp nucleotides was amplified by PCR and analyzed by restriction fragment length polymorphism (PCR-RFLP), and separated by agarose gel electrophoresis.

Results: Our results demonstrated that the alleles and genotype frequencies of the -964 A>G polymorphism of IL-27 p28 in Type 1 diabetes mellitus patients were not significantly different from those of the healthy control group (P = 0.185 and P = 0.355; respectively).

Conclusions: Our findings suggest the -964 A>G polymorphism of the IL-27 gene promoter region is not associated with susceptibility to T1D in the Azeri population from Northwest of Iran.

interleukin-27 gene, Type 1 diabetes, single nucleotide polymorphism, PCR-RFLP.

Presentation: Poster