

SHORT PAPER

Interleukin-10 Gene Polymorphisms and Susceptibility to Brucellosis in Iranian Patients

Manoochehr Rasouli*, Simin Kiany, Maryam Behbin

Department of Immunology, Prof. Alborzi Clinical Microbiology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

ABSTRACT

Background: Interleukin-10 (IL-10) is a Th2-type cytokine that inhibits macrophage activation. It is known that production of IL-10 is affected by its gene promoter polymorphisms. **Objective:** To investigate the relationship between IL-10 gene promoter polymorphisms and susceptibility to brucellosis. **Methods:** One hundred and ninety patients with brucellosis and 81 healthy animal husbandmen who owned infected animals and consumed their contaminated dairy products were included in this study. All individuals were genotyped for three bi-allelic IL-10 gene promoter polymorphisms at positions -1082(G/A), -819(T/C), and -592(A/C) using polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP). **Results:** The distribution of C alleles at positions -592 and -819 of IL-10 were significantly higher in patients than in the healthy animal husbandmen ($p=0.034$ and $p=0.0086$, respectively). IL-10 ATA single and double haplotypes were significantly higher in controls, compared to the patients ($p=0.0278$ and $p=0.013$, respectively). **Conclusion:** According to the results higher frequency of C alleles at positions -592 and -819 of IL-10 in patients may be considered as genetic factors for susceptibility to brucellosis.

*Corresponding author: Manoochehr Rasouli, Department of Immunology, Prof. Alborzi Clinical Microbiology Research Center, Namazi Hospital, Shiraz, Iran. P.O. Box: 71937-11351, Tel: (+) 98 711 629 2021, Fax: (+) 98 711 628 7071, e-mail: rasoulim@sums.ac.ir