Title:
Determining frequency of rs2104286 polymorphism on CD25 gene in Relapsing Remitting Multiple Sclerosis (RRMS) patients

Abstract:
Introduction: Multiple sclerosis is an autoimmune inflammatory disease of CNS. Multi factors including genetic and environmental factors involve in MS etiology. Several Genome-wide association studies (GWAS) in different time and place were done to identify associated genes for diseases as predisposing factors. The results of GWASs revealed association of some immune molecules and their receptors and some HLA with MS. One of them was IL2Ra(CD25) and in this study the frequency of rs2104286A/G SNP of IL2Ra(CD25) in Relapsing Reemitting Multiple Sclerosis (RRMS) patients and control was assessed.

Materials and Methods: 200 patients with RRMS, who referred to MS clinic of Al-Zahra Hospital and 200 blood donors who were recruited to the Blood Transfusion Center, selected as case and control group respectively. All cases and controls filled informed consent. Five ml peripheral blood was taken and DNA was extracted from peripheral blood by DNA extraction kit of Genet bio company(Korea) according its protocol. The rs2104286A/G SNP of IL2Ra(CD25) was evaluated using qPCR followed by a high-resolution melting (HRM) analysis.

Results: At first HRM method was set up. There was not any significant difference in rs2104286A/G variant SNP of IL2Ra(CD25) between RRMS patients and controls (P>0.05).

Discussion and Conclusion: In this study there was not any correlation between rs2104286A/G SNP of IL2Ra(CD25) and MS disease. However in some studies in other population, this correlation was reported. These opposite results may be are due to different genetic background and the sample volume of the study.

Keywords: Multiple sclerosis, Single nucleotide polymorphisms, rs2104286A/G, IL2Ra(CD25)