

Study of TNF- α (-308) gene polymorphism in MS patients and healthy individuals

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Introduction: Multiple sclerosis (MS) is a common disease of the central nervous system with a complex etiology that includes a strong genetic component. According to the previous study, the role of inflammatory cytokines such as TNF- α to the pathophysiology of MS have been proven. TNF- α is a key cytokine that mediates inflammatory responses in the brain as well as other organ systems of the body. So genes that encoding TNF- α can have effect on susceptibility to the development of MS.

subject: Hence according to increasing MS prevalence in Iranian population and lack of genetic data, we evaluated the effect of TNF- α (-308) gene polymorphism on MS.

Method: after clinical investigation finally 513 subjects were included in this study. They were divided into two groups; 242 patients for case group and 271 subjects for control group. After DNA extraction from whole blood the TNF- α (-380) polymorphism was determined by SSP-PCR method. Eventually, data were analyzed by SPSS.

Result and Conclusion : Result showed that G allele was significantly more frequent in MS patients (83%) versus control group(70%)(OR=2.05,CI=1.5-2.8,P<0.00001).In addition , A/G and G/G genotypes were (32% ,66%) in MS patients respectively and (45% , 48%) in control group .so according to our result we can imply that carrier of G allele are more susceptible to MS.

Keywords: Multiple sclerosis, TNF- α , polymorphism