

Comparison of cytokines relative mRNA expression in multiple sclerosis (MS) patients with a control group

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Abstract

Multiple sclerosis (MS) is the most common kind of incapacitating disease in young adults. It is commonly presumed that MS is occurred by an autoimmune reaction that damages myelin sheath of the central nervous system. Cytokines play an important role in inflammation and in MS disease progression. Fingolimod is one of the most important disease modifying therapies that used to manage MS. The aim of this study was to investigate the effect of fingolimod treatment in MS patients on the relative expression level of different cytokines, including TNF- α , IL-6 and INF- γ and to Provide evidences about the clinical effect of fingolimod on MS patients. The study included 40 non-MS patients (control group) and 75 MS patients divided to tow groups; 45 MS patients not taking fingolimod and 30 MS patients were taking fingolimod. Our results show that there was significant difference between MSWF and MSN in the relative mRNA expression of IL-6 ($p < 0.001$), INF- γ ($p < 0.001$) and TNF- α ($p = 0.002$). MRI examination test demonstrated that fingolimod had better outcomes than other treatments and these findings could be related to the decreased relative mRNA expression of cytokines.

Keywords: Multiple sclerosis, fingolimod, cytokines, Jordan

