



Impact of methylprednisolone treatment on the expression of macrophage inflammatory protein 3 α and B lymphocyte chemoattractant in serum of multiple sclerosis patients

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Abstract:

In order to extend our studies designed to elucidate the mechanism of action of intravenous methylprednisolone (*iv*MP) in symptomatic therapy of relapses in multiple sclerosis (MS) victims, we have evaluated the expression of chemokines: macrophage inflammatory protein 3 α (MIP-3 α) and B-lymphocyte chemoattractant (CXCL13) before and after treatment. The data from further exploration of the MP mechanism of action in MS relapses may be helpful in establishing the treatment design, that would be specific both for individuals, and for the disease phase.

The mean levels of MIP-3 α in sera of MS patients showed no statistically significant differences compared to control subjects. The comparison of MIP-3 α level before and after therapy with *iv*MP gave the same result. The CXCL13 expression in serum was significantly higher in the group of MS patients than in healthy subjects. After therapy with *iv*MP the estimated level demonstrated an increase as related to the initial values found in MS patients. Such a response was seen also in the responder but not in non-responder subgroup.

The enhancement of CXCL13 expression after *iv*MP therapy in MS relapses may explain the lack of a long-term effect of MP therapy in MS. The observed difference in CXCL13 expression between responder and non-responder group of patients should be regarded as a step towards elucidation of the therapeutic effect of *iv*MP in MS relapses.

Key words:

methylprednisolone, multiple sclerosis, CXCL13, MIP-3 α
