
The aim of this study was to analyze the effect of immunomodulatory treatment of multiple sclerosis (MS) on lymphocyte surface immunomarkers. The special attention was given to TCR α/β, γ/δ and α/β HLA-DR markers. Peripheral blood was obtained from 39 patients with clinically definite R-R MS, fulfilling the criteria of McDonald et al.[5]. The group of 15 patients was treated with interferon β-1a (Avonex) intramuscularly once a week. The blood was obtained before and after two years of treatment. The other group of 10 patients was treated every day with 20 mg of glatiramer acetate (Copaxone) intracutaneously. Subsets of lymphocytes were analyzed by the method of flow cytometry, using monoclonal antibodies produced by Ortho Diagnostic System. The relative results were evaluated using Immuno Count II program. The frequency of the studied subsets in MS was markedly different from that in healthy persons. The higher number of CD4, TCR α/β positive cells and higher CD4/CD8 ratio was observed. In comparison to healthy individuals, in MS patients a decreased number of TCR γ/δ, and α/β HLA-DR was found. After therapy with glatiramer acetate, CD3 and CD8 positive lymphocytes were more frequently observed than before the drug administration. The CD4/CD8 ratio was markedly decreased. The effect of interferon β-1a treatment was similar as in the previous group, i.e. a slight increase in CD3 and CD8 was noticed after therapy. Despite the differences in action of both immunomodulatory drugs, which was established in several studies, we like to stress some similarity in their effect on CD3, CD8, α/β HLA-DR and γ/δ HLA-DR immunomarkers frequency in lymphocyte, and on the CD4/CD8 ratio. This may mean that there are some common immunological steps of special importance for the clinical effect in MS.

Key words: lymphocyte surface immunomarkers, multiple sclerosis, interferon β, glatiramer acetate

---

*correspondence; e-mail: mwender@amp.edu.pl