

[Am J Clin Oncol](#). 2002 Dec;25(6):591-6.

Lymphocyte subpopulations and interleukin levels in high-risk melanoma patients treated with high-dose interferon A-2B.

[Gogas H](#), [Paterakis G](#), [Frangia K](#), [Bafaloukos D](#), [Pectasides D](#), [Kalofonos HP](#), [Loukopoulos D](#), [Stavropoulou-Giokas C](#), [Ioannovich J](#), [Mihm MC Jr](#).

Source

1st Department of Internal Medicine, Athens University, Laiko Hospital, Athens, Greece.

Abstract

Immunologic effects of high-dose interferon are still unclear. We have evaluated changes in blood lymphocyte subpopulations, immunoglobulins, and multiple interleukin in patients with high-risk cutaneous melanoma on adjuvant treatment with high-dose interferon and compared pretreatment values with normal controls. Samples were obtained before treatment, 1 month after induction treatment and at 3, 6, and 12 months of maintenance treatment from 24 patients with high-risk melanoma. Lymphocyte subpopulations were measured by flow cytometry and interleukin and immunoglobulin levels by radioimmunoassay. A statistically significant reduction in B-lymphocytes ($p < 0.001$), natural killer (NK) cells ($p = 0.0004$), and monocytes ($p = 0.04$), and an elevation in CD4/CD8 ratio ($p < 0.0001$) was observed after 1 month of intravenous interferon. No changes were seen in CD3, CD4, and CD8 lymphocytes. No changes in interleukin (IL)-2, -4, or -5 were observed during 1 year of treatment. IL-2 pretreatment levels were significantly lower than healthy blood donors ($p = 0.001$), and IL-5 pretreatment levels were significantly higher ($p = 0.0056$). IL-10 levels significantly dropped after 6 months of treatment ($p = 0.01$). Immunoglobulins (IgG, IgA, IgM) remained within normal ranges. Three patients had elevated pretreatment levels of IgE. There is a time- and dose-dependent impact of interferon on numbers of circulating B lymphocytes, NK cells, monocytes, and CD4/CD8 ratio. Defects in cellular and humoral immunity are suggested by the low IL-2 and high IL-5 levels, measured in patients with melanoma as compared with healthy controls.