Estimation of gamma-delta-1 T cell receptor (γδ-1 TCR) expression in bone marrow lymphocyte population in lymphoma malignum and multiple myeloma

Ewa Sowińska, Lidia Usnarska-Zubkiewicz, Kazimierz Kuliczkowski

Department of Haematology, Blood Neoplasms and Bone Marrow Transplantation, Wroclaw Medical University, Pasteura 4, PL 450-367, Wroclaw, Poland

Correspondence: Ewa Sowińska, e-mail: esowin@hemat.am.wroc.pl or esowin@poczta.onet.pl

Abstract:
Gamma-delta-1 T lymphocytes participate in the human body protection against tumor development by an intrinsic cytolytic activity against tumor cell, like sarcoma, leukemia and lymphoma. So aim of our study were: 1) estimation of gamma-delta-1 T cell receptor (γδ-1 TCR) expression in bone marrow lymphocyte population of lymphoma malignum (NHL) and multiple myeloma (MM) patients, 2) quantitative comparison of the whole γδ-1 T cell population and activated γδ-1 T CD25+ and γδ-1 T CD69+ cell subpopulations in bone marrow and peripheral blood of NHL and MM patients, 3) attempt to find a relationship between percentage of bone marrow γδ-1 T lymphocytes in newly diagnosed NHL and MM patients and clinical outcome. γδ-1 T lymphocytes were estimated by double-color flow cytometry. In NHL and MM patients, percentages of all γδ-1 T and activated γδ-1 T CD25+ and γδ-1 T CD69+ cells were higher in bone marrow than peripheral blood. Higher percentage of activated γδ-1 T CD25+ lymphocytes in bone marrow, measured at the time of diagnosis, may be a new good prognostic marker of lymphoma malignum.

Key words: gamma-delta T cell receptor, bone marrow, lymphocyte, lymphoma malignum, multiple myeloma