Abstract

In last decades, with expansion of immunological and biological methods are developed new diagnostical and treatment processes, which enable stratification of patients into sanative groups and trend to individual therapy. Absolutely transparent are effects relevant to leukemia. Present treatment procedures enable not only longer survivance of patients, but often their stable sanation. In present time is in progress intesive research imunotherapy NK cells, which could be able to finish minimal residual disease after chemotherapeutical treatment, which is evoke by persistant malignant cells. Next advantage of this treatment procedure is elimination of system disease in cosequence of exactly pointed cure.

In this work he attended *in vitro* testing to possibility of utilization imunotherapeutic treatment by NK cells acute and chronic myeloid leukemia and chronic lymfoblastic leukemia. Using flow cytometry methods we detected activation and inhibitory ligands which are recognized by NK cells on the cell surface of leukemia blasts. These are members of MHC complex HLA-E, molecules derived from MHC class I (MICA, MICB), UL16-binding proteins (ULBP-1, ULBP -2, ULBP -3, ULBP -4) and also Hsp70 protein according to the newest observation. We also atended to detection of expression inducible heat shock proteins Hsp 70 in plazmatic membrane and in cytosol monoclonal antibody cmHsp70.1. FITC (Multimmune GmbH, Munich, Germany) in leukemia blasts and health human samples. Inducibile form of protein Hsp70 is a strong anti-apoptical protein, but also specific ligand for NKG2D, activating receptor NK cells. We also attended to stimulation NK cells by interleukin IL-2 and 14 mer peptid TKD derivated from protein Hsp70. Last but not least we tested usability of leukemia lines as a objective cells for testing cells cytotoxicity by method of cytotoxicity (^{51}Cr-release) test.