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THE LEVEL OF AUTOANTIBODIES AGAINST PROCATHEPSIN D IN THE DIFFERENT SETS OF PATIENTS

ABSTRACT

Cathepsin D (E.C. 3.4.23.5, CD) is lysosomal aspartic peptidase syntetized in all of the mammal cells and the ability to catalyze the hydrolitic cleavage peptidic bonds in peptides or proteins belongs to its basis characteristic. During the long-standing research it was discovered, that there exist an increased expression of CD in tumorous cells, which is more than 50 times higher than in normal cells and which leads to secretion of CD from these cells. Only enzymatically inactive zymogen procathepsin D (pCD) with intact activation peptide (AP) attached is being released by the tumorous cells. It was shown, that this activation peptide is probably responsible for the mitogenic activity in the tumorous cells. It comes up very often to the creation of antitumor immune response against tumor antigens at patients suffering from tumorous condition. Determination of these autoantibodies and analysing of diagnosed antigens could employed as diagnostic and prognostic markers.

The aim of our study was to verify the hypothesis, that the level of autoantibodies against AP pCD could be employed for diagnostic purposes, first of all as a new tumorous marker. It was necessary to develop and optimalize ELISA immunoanalytical method for determination of autoantibodies against AP pCD in the serum of the chosen groups of patients to conduct this study.

The level of autoantibodies was correlated with the state of health of the patient and the influence of the gender and age on the result of measuring was studied. The statistics analysis was made in all acquired results. The level of autoantibodies against AP pCD is influenced by the gender and age of the patient. Our preliminary results also suggest possibility of correlation of the level of these autoantibodies for various types of cancer. Deeper study is needed to determine the validity of these measurements for diagnostic purposes.