STUDY OF DYNAMICS BEE VENOM-INDUCED SHRINKAGE OF ERYTHROCYTES OF THE PATIENTS WITH ANEMIAS OF VARIOUS ETIOLOGY

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The physiological state of erythrocytes changes with many pathologies. Some parameters of the cell are possible to use for the simplification of diagnostics and control of therapy of diseases, that allows to select more correct treatment and to reduce hospital staying for patients.

We investigated bee venom-induced shrinkage of erythrocytes for patients with various forms of anemias. Volume of a cell was measured by a device of a Culter Counter type. The measurements were carried out each minute after addition bee venom (2.5 mg/ml) to suspension of erythrocytes.

The research of dynamics of bee venom-induced shrinkage of erythrocytes has shown that there are differences between a cell of the healthy donors and patients with anemias of various etiology. Erythrocytes of the patients with cancer diseases (uterus carcinoma) demonstrated faster shrinkage in comparison with the control (volume equal 50% from initial, was reached in 2.5±0.3 min and 5±0.5 min, correspondingly). Erythrocytes of the patients with posthemorrhagic anemias demonstrated slower shrinkage in comparison with control (volume equal 80% from initial, was reached in 5±0.5 min and 2.5±0.4 min, correspondingly). Feature of dynamics of bee venom - induced shrinkage of erythrocytes of the patients with posthemoraggy anemias was also the occurrence of two cell populations, distinguished by the rate of shrinkage.

As assumed a basic structure of erythrocytes which takes part in bee venom - induced shrinkage is cytoskeleton. Taking all this into the consideration one can conclude about the existence of differences in a condition of cytoskeleton in erythrocytes of the patients with various pathologies.