
BIOLUMINESCENT TESTING THE BLOOD LYMPHOCYTES FOR RHINOSINUSITIS POLYPOSA PATIENTS

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Abstract

The important role of the metabolic processes in the cells of the immune system are emphasized to ensure the body's homeostasis. Bioluminescence testing can be used to measure metabolic status. The aim of the research is study is to evaluate the immune status and activity of NAD(P)-dependent dehydrogenases in rhinosinusitis polyposa.

The subjects of the research were blood lymphocytes, extracted from blood in 54 patients with rhinosinusitis polyposa in the ages from 25 to 45 years. Disease severity was evaluated with the severity of clinical symptoms, and based on peripheral blood hematological changes. The control group consisted of 71 healthy people of the same age range. We determined the activity of NAD(P)-dependent dehydrogenases in peripheral blood lymphocytes by bioluminescent technique. We characterized the activities of glucoso-6-phosphate dehydrogenase (G6PDH); glycerol-3- phosphate dehydrogenase (G3PDH); NAD(H)-dependent reaction of lactate dehydrogenase (LDH and NADHLDH); NAD(H)-dependent reaction of malate dehydrogenase (MDH and NADHMDH); malic enzyme (NADPMDH); NAD(P)-dependent glutamate dehydrogenase (NADGDH and NADPGDH); NAD(P)H-dependent reaction of glutamate dehydrogenase (NADPHGDH and NADHGdH), NAD(P)-dependent reaction of isocytrate dehydrogenase (NADICDH and NADPICDH) and glutathione reductase (GR).

We should mention an important role of metabolic processes in immune system cells in homeostasis in an organism. Speed and intensity of immune reactions depend on the initial state of lymphocyte metabolism. While determining common and specific peculiarities of metabolism under ARS, we marked the increase of the activity in such enzymes as G6PDH, NADP-dependent reaction of MDH, NAD-dependent reactions of MDH and LDG and NADH-dependent reaction of MDH and decrease in the level of such enzymes as G3DH, NADP-dependent reaction of GDH and NADPH-dependent reaction of GDH as compared to control.

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