

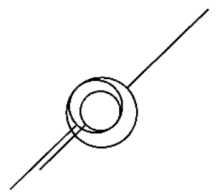
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## Disturbances of erythrocytes membrane during ischemic and hemorrhagic stroke: assessment of proteins pathology

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A classical model for studying the properties of the pathogenesis of the disease at the cellular level is the cell membrane, in particular, the erythrocyte membrane (1). The study involved 60 patients aged 38-48 who underwent cerebral stroke. Ischemic stroke was diagnosed in 36 patients, hemorrhagic in 24. The control group consisted of 20 practically healthy donors of the same age. Quantitative changes of membrane proteins of blood erythrocytes have been studied. One-dimensional disk-electrophoresis was carried according to Lammler's method (2). The resulting gels were scanned on a densitometer, statistical processing was performed using the Mann-Whitney criteria. A significant reduction in the level of 2.4, 2.5 ankyrin fractions, anion transport protein, protein of band 4.1 and 4.2, protein of band 6, tropomyosin and increase in the content of spectrin, fractions 2.1 and 2.3 of ankyrin in patients with ischemic stroke were received. More expressed quantitative disintegration in the contents of membrane proteins of erythrocytes in protein bands 4.2, 4.9 and increase in concentration of protein band 4.5 of erythrocyte membrane of patients with hemorrhagic stroke have observed. Disorders related in the interaction of membrane proteins, a decrease in their normal content lead to profound structural and functional changes, as well as to the appearance of new conduction channels in the erythrocyte membrane.

(1) Batyuk L, Kizilova N, Muraveinik O, Nanodiamonds and RBCs membrane in ischemic stroke. *Nano-Technology in pharmacy and medicine*. 2018: 3-4.

(2) Laemmli U, Cleavage of structural proteins during the assembly of the head bacteriophage T4. *Nature*. 1970;227(5259): 680-685.

Keywords: membrane proteins; erythrocyte membranes; ischemic stroke; hemorrhagic stroke;

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