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Influences of laser irradiation of blood and of plasma-filters conducted in plasmaphresis on erythrocytes in myasthenia

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One of the most effective medical measures in the treatment of myasthenia – M is implementation of plasmapheresis – P. However the procedure leads to damage of blood cells, and especially of erythrocytes – E. Low intensive laser irradiation – LILI is one of the efficacious methods that allows restoring the proportion between dyscocytes D - normal E and their pathologic forms-PFE. The interactions between structural components of plasma-filters - Pf and blood cells, and the influences of LILI on E have not been studied.

The aim was to study the interactions of structural elements of "Rosa" Pf from HEMOFENIX apparatus with E and influence of LILI on them. Scanning electron microscopy of fragments of membranes and meshes were studied 60 min after P. LILI of components of Pf was carried out with "Matrix-VLOK" (radiating head KL VLOK, λ - 0,63 μm),

SEM showed that there were accumulations of E, with domination of PFE, on membranes of Pf after P. The membranes themselves were visualized as quite even and homogenous surface with multiple pores – 0.6-1 μm in diameter. The share of PFE on Pf becomes increased after P; often they are represented by echinocytes. Irradiation of Pf with LILI during P significantly reduces number of all types of E retained on the surface of Pf, with D prevailing over PFE among present. LILI of Pf during P improves ratios of D and PFE.

Biography

Azamat Butaev has completed his Post-graduate education at the age of 32 years from Republican Specialized Center of Surgery named after acad. V. Vakhidov, and Clinical resident from the same center. He is the Laboratory Assistant of Pathologic Anatomy department of Republican Specialized Center of Surgery. He has published more than 40 papers in reputed journals and took part in the many international congresses and conferences.

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