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Capillaroscopy in complex treatment of retina and optic nerve

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Statement of the Problem: In some diseases of the eye affects its nervous tissue. The retina and optic nerve are unable to regenerate, which leads to their degeneration and visual impairment. Treatment of degenerative diseases of the organ of vision is not effective enough, because modern medicine is not able to affect the cells and repair damage occurring at the molecular level. The Nature has provided for effective self-defense of the organism - autorepair. The task of therapeutic treatment is to stimulate the self-healing of anatomy and function of tissues affected by the disease by restoring capillary blood flow in the tissues of the retina and optic nerve. The structure and function of the capillaries are the same in all organs and systems. The purpose of this study is to describe the physical parameters of blood circulation in the microvessels of the bulbar conjunctiva, evaluation of the rheological state of red blood cells, to study of ultrastructural features of microvessels in normal and degenerative diseases of the retina and optic nerve.

Methodology: A special device was created to record the movement of blood through the microvessels of the bulbar conjunctiva called "Capillaroscope OKO". The studied parameters of blood flow: the linear velocity of red blood cells, the diameter of arterioles and venules, the presence of stasis and erythrocyte sludge, the presence of arteriolo-venular shunts, newly formed vessels, the value of arteriolo-venular ratio. Findings: Degenerative diseases of the retina and optic nerve occur due to the deterioration of blood transport function, passing through the capillaries of the visual analyzer. Microcirculation disorders are initiated by common pathological processes in the patient's body. Conclusion & Significance: The method of computer capillaroscopy of the bulbar conjunctiva allows in the early stages to identify violations of the microcirculation of the entire body of the patient, including the retina and the optic nerve. Application of the General complex therapy of eye diseases allows to increase efficiency of the carried-out treatment and to keep visual functions.