# CLINICAL AND MORPHOFUNCTIONAL CHANGES IN THE RETINA IN HIGH MYOPIA IN COMBINATION WITH AGE-RELATED MACULAR DEGENERATION OF DIFFERENT STAGES

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**Material and methods**.

The study included 45 patients (87 eyes), average age 60 years, with high myopia (mean spherical equivalent (SE) of refraction -11.0 D [-15.0; -7.125]) and "dry" AMD of AREDS categories 1, 2, 3, and 3 control groups of the same age group: Group 1 - 30 healthy individuals (58 eyes) without any retinal changes (SE from -0.25 D to +0.5 D); Group 2 - 20 people (38 eyes) with isolated high myopia (SE ³ 6.5 D); Group 3 - 20 people (36 eyes) with "dry" AMD (AREDS 2, 3). The best-corrected visual acuity (BCVA), retinal photosensitivity indices (MD, PSD) were assessed using computer perimetry data, as well as morphological characteristics: central retinal thickness (CRT), length of the anterior-posterior axis of the eyeball, and the state of the macular region of the retina using optical coherence tomography (OCT) in b-scanning mode and autofluorescence (AF).

Results. In case of combined pathology, a significant decrease in the average BCVA value to 0.5 [0.3; 0.7] ($p < 0.001$) and retinal photosensitivity indices were found compared to the control: MD to -4.36 dB ($p < 0.001$), PSD to 2.97 dB ($p < 0.001$). CTS did not statistically significantly differ from the control and was equal to 235 μm ($p = 0.122$). Morphological changes in the retina corresponded to high myopia and AMD: dome-shaped profile, lacquer cracks, paravascular retinal microcysts, paravascular lamellar breaks; myopic maculopathy in the form of epiretinal membrane, vitreomacular traction due to incomplete vitreoretinal detachment, myopic foveoschisis; spotted chorioretinal atrophy, areas of diffuse atrophy of the retinal pigment epithelium, damage to the junction line of the outer and inner segments of the photoreceptors. An increase in the number and size of drusen

depended on the stage of AMD. Normal AF of the fundus was absent. Pathological AF included minimal changes such as focal hypo- and hyperautofluorescence, reticular pattern, focal pattern, linear pattern, lace-like pattern, areas of geographic atrophy with pronounced hypoautofluorescence.

**Conclusion**. Changes in OCT parameters and visual fields (MD, PSD) in comorbid pathology (combination of AMD with high myopia) are shown, morphofunctional parameters are compared at different stages of AMD and the diagnostic role of AF is established.

**Keywords**: high myopia, age-related macular degeneration, optical coherence tomography, autofluorescence