Characteristics of Humphrey perimetry in patients with senile cataract
N. Voronova, N. Ivanova
Department of Ophthalmology and Otolaryngology, Crimean State Medical University n. S.I. Georgievskiy, Simferopol, Ukraine

Background: Development of cataract is responsible for changes in optical properties of the eye, impairment of visual function – decrease of central vision, reduced light transmission, changes in photosensitivity, and reduction of visual field. Nowadays, «the gold standard» of perimetry is the technique of automated static Humphrey perimetry.

Purpose: Evaluation of Humphrey perimetry characteristics in patients with cataract.

Materials and methods: Complete ophthalmic examination of 60 patients (120 eyes) with senile cataract (SC) of mean age 60.85 ± 2.16 and 45 (90 eyes) healthy persons (control group - CG) comparable by the age and sex with SC group was carried out. Lenticular opacity degree was evaluated according to LOCS III. Perimetry was done on the perimeter of Humphrey (HFA) according to Sita-Standard 30-2 program.

Results: Average index of Best-corrected visual acuity (according to Snellen’s chart) in SC group was 0.64 ± 0.08, and in CG it was 0.96 ± 0.02. Lenticular opacity degree in patients with senile cataract was 4.9 ± 0.6. Average index of photosensitivity in each examined point in patients with senile cataract was lower than the similar index in patients from the control group by 22.4% (p < 0.001). Mean deviation (MD) and Pattern standard deviation (PSD) in patients with SC was significantly higher than that in control group patients by 73.1% and 36.4% correspondingly. All patients (100%) with senile cataract were revealed to have general depression of photosensitivity, 43% showed the presence of small scotomas not connected with blind spot, and 29% patients had limitation in visual field. Conducted correlation analysis revealed the presence of positive correlation between the lenticular opacity degree and MD [r = 0.74 (p < 0.001)], and lenticular opacity degree and PSD index [r = 0.62 (p < 0.001)].

Conclusions: Senile cataract causes the decrease of photosensitivity, development of scotomas not connected with the blind spot, and limitation of visual field according to Humphrey perimetry data. Extent and degree of visual fields defects according to Humphrey perimetry data depend on the lenticular opacity degree. Automated static Humphrey perimetry allows to evaluate the visual functions in patients with senile cataract.