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Binocular Visual Field In Glaucoma Patients

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Introduction: The problem of glaucoma is one of the most important in ophthalmology because of its great medical and social importance and vision loss as an outcome. The frequency of glaucoma is constantly increasing and this disease is one of the main causes of vision loss. To detect the eye pathology we need to test the visual field of each eye separately. But our perception is determined by two eyes. The progression of glaucoma is accompanied by scotomas and their incensement. In glaucoma vision loss begins on the periphery and central vision loss happens only on the late stages of a disease.

Aim: To test binocular vision field loss in glaucoma patients.

Materials and methods: For binocular visual field assessment two approaches can be used. The first is to combine results of monocular testing. Nelson - Quigg et al. state that by using one of the models (best location model, binocular summation model) it is possible to predict the results of binocular testing. The second approach is the test with two eyes open. For the assessment of binocular visual field and adaptation Esterman test was created. Later it was modified for automatic perimeters. Esterman test is based on function. Esterman instead of putting two monocular fields one upon another detected borders of the normal binocular visual field and made its projection. Then he divided it into parts of different size corresponding to their function. The important zones by Esterman are situated in the lower part of the field because the work done on close distances has more importance in the everyday life.

Results: We introduced Esterman test in our clinic. 12 patients were examined using this test. 4 of them had the initial glaucoma in both eyes, 4 had the initial glaucoma in one eye and advanced in the second eye, 2 had advanced glaucoma in both eyes and 2 had advanced glaucoma in one eye and final in the second eye.

Conclusion: The comparison of monocular and binocular visual field tests in glaucoma patients has shown the necessity of the binocular visual field testing in these patients for the assessment of the quality of life. It helps to increase the efficiency of diagnostics of patients with glaucoma and receive more accurate data about the influence of the disease on visual functions and quality of life.