

**COMPARATIVE EFFECTIVENESS OF VARIOUS ANTI-
GLAUCOMA OPERATIONS IN COMBINED CATARACT AND
GLAUCOMA SURGERY**

Abstract: Cataracts and glaucoma are one of the main causes of blindness and disability worldwide. The combination of these diseases is quite common in the clinical practice of an ophthalmologist, their combination occurs in 17-38.6% of cases. Currently, the choice of the most effective tactics of surgical treatment of such patients remains one of the most urgent problems in ophthalmology.

Key words: cataract; open-angle glaucoma, phacoemulsification, phacotrabecular ectomy, sinusotomy, viscocanalization.

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**СРАВНИТЕЛЬНАЯ ЭФФЕКТИВНОСТЬ РАЗЛИЧНЫХ
АНТИГЛАУКОМНЫХ ОПЕРАЦИЙ В КОМБИНИРОВАННОЙ
ХИРУРГИИ КАТАРАКТЫ И ГЛАУКОМЫ**

Аннотация: Катаракта и глаукома являются одной из основных причин слепоты и инвалидности во всем мире. Сочетание этих заболеваний довольно распространенное явление в клинической практике офтальмолога, их комбинация встречается в 17–38,6% случаев. В настоящее время выбор максимально эффективной тактики хирургического лечения таких пациентов остается одной из наиболее актуальных проблем в офтальмологии.

Ключевые слова: катаракта; открытоугольная глаукома, факоэмульсификация, факотрабекул-эктомия, синусотомия, вискоканалоли-латация.

Relevance. According to the literature, cataracts occur almost three times more often in patients with primary glaucoma older than 50 years than in the same age group of people who do not suffer from glaucoma: 4% and 1.4%, respectively, and progress faster. Within 1-2 years, cataract passes from the initial stage to the mature stage on average in 25% of glaucoma patients and only in 11% of age-related cataracts [6]. According to foreign authors, trabeculectomy remains the gold standard in glaucoma surgery.

The two-stage intervention involves the first stage of hypotensive surgery, and the second - cataract extraction. It is noted that if the patient needs a more significant reduction in IOP after surgery (for example, with a developed or far-advanced stage of glaucoma), a primary trabeculectomy performed before cataract extraction will be more preferable. The probable causes of failures in two-stage surgery are discussed and justified in the literature. Many works are also devoted to the comparison of combined and two-stage surgery. It should be noted that the works where three main surgical approaches to the problem of surgical treatment of glaucoma and cataracts are compared at once are found only in foreign literature[2,5].

In recent years, the question of the expediency of implantation of an intraocular lens (IOL) with a combination of glaucoma and cataracts is most often decided in favor of intraocular correction. This type of correction of aphakia is most effective in patients with a far-advanced stage of glaucoma, in which defects in the central field of vision are aggravated by a significant narrowing of the peripheral borders. The fact of the possibility of obtaining favorable results of cataract surgery on a single eye with concomitant glaucoma has been established. Adequate ophthalmotonus is extremely important to ensure the uncomplicated conduct of the main stages of the operation and the preservation of the capsule bag. There are few reports of combined intervention on single eyes, most often they are regarded as an unjustified risk of increased complications.

The fact that glaucoma continues to progress in at least one in five patients within 15 years after a successful filtering operation and normalized IOP makes us seriously think about the need for neuroprotective therapy much more widely than it happens in everyday ophthalmological practice. Some optimism in the treatment of glaucoma is due to the appearance of peptide bioregulators - cytomedins. Currently, the peptide bioregulator retinalamine, which is enough to be injected into the subtenon space of the eye 1 time every 6 months, is widely used in ophthalmology (Khavinson V. H., 2000). In the literature, the question of the ways of introducing drugs in the treatment of glaucoma is discussed. There are no reports of combining an anti-glaucomatous operation with the introduction of a medicinal substance into the subtenon space in the available literature.

Glaucoma in the world, as in the whole world, is one of the main causes of visual impairment and incurable blindness. Most patients with primary open-angle glaucoma (POAG) are traditionally on hypotensive therapy, but up to 40% of patients still need surgical treatment[1]. However, a significant number of complications remain a serious problem. Among the reasons for the decrease in the hypotensive effect, the leading place is occupied by excessive scarring of the formed intraocular fluid outflow pathways (IOP)[4,6]. There are ways to reduce the possibility of its development, for example, improving the technique of surgical interventions[3].

The effectiveness of surgical treatment of secondary glaucoma in the long term remains the least successful. This form is the main indication for the use of drains, but a number of serious complications and the high cost of some of them are a limitation for widespread use [5]. In neovascular glaucoma (NVH), the isolated use of cyclodestructive or fistulizing operations (FO) often does not provide an adequate result due to the large number of complications and the impossibility of affecting all links of pathogenesis, but their combined use allows to increase the effectiveness of treatment. The results of the treatment of

NVH with the preliminary use of a vasculoendothelial growth factor (VEGF) inhibitor are insufficiently studied. Of great importance is the formation of an integrated approach to the treatment of NVH, which is based on a combined mechanism of action, [2].

The purpose of the study. Improving the effectiveness of surgical treatment of patients with a combination of cataracts and open-angle glaucoma.

Materials and methods. This open prospective study was based on the results of examination and surgical treatment of patients with a combination of cataracts and various stages of open-angle glaucoma (200 eyes).

The results of the study. Facotrabeculectomy and phacoemulsification with viscocanalodilation have a pronounced hypotensive effect and lead to a significant improvement in visual functions in patients with a combination of cataracts and glaucoma, regardless of the stage of glaucoma and the presence of pseudoexfoliative syndrome.

Phacoemulsification with sinusotomy and viscocanalodilation provides a hypotensive effect comparable to phacotrabeculectomy after additional laser goniopuncture, which was required in 58% of cases in the postoperative period. Phacoemulsification with sinusotomy and viscocanalodilation provides earlier restoration of visual acuity with fewer early postoperative complications compared to phacotrabeculectomy.

After phacoemulsification, a smaller number of early postoperative complications were noted in patients with a combination of cataracts and glaucoma, but the hypotensive effect can be provided only if the drug therapy of glaucoma continues.

Phacoemulsification can be performed in patients with a combination of cataracts and glaucoma in the absence of pronounced changes in the visual field and the optic nerve disk, as well as compliance with the patients' regime of antihypertensive drug installations. In other cases, it is advisable to perform phacoemulsification in combination with sinusotomy and viscocanalodilation.

Conclusion. The analysis of the results of our study showed that modern methods of surgical treatment of patients with a combination of cataracts and glaucoma provide a good antihypertensive effect, both when performing combined interventions and in PE without an "anti-glaucoma" component, but with the use of modern antihypertensive drugs.

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