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EFFICACY OF XALAPROST EYE DROPS IN THE TREATMENT OF PRIMARY OPEN-ANGLE GLAUCOMA

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ANNOTATION: According to WHO, the total number of patients with glaucoma in the world exceeds 100 million, and about 600 thousand new cases of blindness as a result of glaucoma are registered annually.

In the traditional algorithm for the complex treatment of primary glaucoma, local antihypertensive drugs play a primary role. As a rule, the prescription of these drugs is long-term, and the effectiveness of treatment is achieved only with an adequate level of compliance (adherence to treatment). Based on this, the requirements for antihypertensive drugs are both a pronounced effect in reducing IOP levels, as well as good tolerability, minimal side effects and ease of use.

Key words:latanoprost, ophthalmohypertension, generics, cataract, parathyroid hormone, retinoschisis.

Currently, these requirements are best met by prostaglandin analogues, used both as monotherapy and in combination with drugs from other groups of antiglaucoma drugs.

Prostaglandin analogues stimulate FP receptors and reduce IOP levels by improving the outflow of intraocular fluid along the uveoscleral pathway. These drugs have the most pronounced hypotensive effect among all other drugs used for monotherapy of POAG. A decrease in the level of ophthalmotonus is observed within 2 hours after instillation. The hypotensive effect lasts up to 24 hours after the last instillation [7].

The prostaglandin analogue 0.005% latanoprost solution is characterized by high efficiency in reducing IOP and good tolerability. Compared with other prostaglandin analogues, latanoprost has a lower incidence of side effects such as conjunctival hyperemia, increased eyelash growth, and the occurrence of pigmentation in the periocular areas [2]. Based on the results of 2 meta-analyses (32 and 15 randomized controlled trials), it was concluded that latanoprost has the best safety profile and comparable antihypertensive effect among other prostaglandin analogues (bimatoprost, travoprost and tafluprost). Latanoprost is also one of the drugs with the most balanced benefit/risk ratio [5].

However, the choice among prostaglandin analogs is not the only one that a doctor has to make when prescribing conservative treatment for a patient with glaucoma. There are currently a number of generics of 0.005% latanoprost on the market. An important point is the availability of information about the equivalence of the generic drug to the original drug in terms of its therapeutic effect and composition. These two key links determine the consistency of the effectiveness and tolerability of generic and original drugs.

Recently, comparative studies have begun to be carried out, both generics with the original drug, and analogue drugs with each other. As a rule, chromatography is used to determine the composition of these drugs. In published domestic and foreign studies, the hypotensive effect of the compared drugs turned out to be comparable, and the composition was almost identical. Differences in the assessment of side effects and overall tolerability, as well as certain objective criteria, were not significant [9]. These data confirm that the importance of generics in the treatment of ophthalmic diseases is underestimated.

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METHODS AND STUDY

The total number of patients was 60, of which 28 were men and 32 were women. The age of the patients ranged from 33 to 70 years, on average 51.5±18.5 years. 2 groups of 30 people were formed. In the 1st group, patients received treatment with Xalaprost®, in the 2nd group (control group) - with Xalatan® according to the same regimen for 12 weeks. (84 days). Within 12 weeks. 6 visits were planned. Assessment of subjective and objective symptoms was carried out during screening, on the 1st day of treatment, after 1, 3, 6 and 12 weeks. treatment.

Subjective symptoms and severity of discomfort during instillation were assessed using special scales. Objective evaluation criteria included the dynamics of visual acuity, IOP level, and perimetry data ("Perikom 300" - a total perimetry program).

RESULTS

Initial visual acuity was checked using the Golovin–Sivtsev tables. The average value of best corrected visual acuity in the Xalaprost® group at the screening visit was 0.78±0.04, at the 6th visit – 0.78±0.06. The difference was statistically insignificant. In the Xalatan® group, the average corrected visual acuity was 0.80±0.03, at the 6th visit – 0.75±0.07.

The maximum hypotensive effect was achieved in the Xalaprost® group by the 2nd week. treatment, and in the Xalatan® group - by the 12th week. treatment. Its average value was 31.8% of the initial level in the main group, and 30.9% in the control group. Moreover, the maximum hypotensive effect in the group that was prescribed Xalatan® was recorded later than in the control group. However, the effect of lowering IOP was somewhat more stable (the difference between the indicators at the last two visits was no more than 3%). The differences in the mean values of true IOP between the study groups throughout the entire treatment period were statistically insignificant.

As a result of the use of both drugs, a statistically significant decrease in true IOP was observed within the first day after the start of treatment ($p < 0.01$). After discontinuation of treatment, both groups showed an increase in true IOP, which, however, was significantly lower than the initial level ($p < 0.01$). The difference in the minimum values of true IOP achieved by prescribing antihypertensive therapy in the study groups was 0.63 mm Hg. Art. and was statistically insignificant ($p=0.01$).

In addition, the proportion (%) of patients whose true IOP decreased by more than 30% by the 12th week was analyzed. treatment. Thus, in the Xalaprost® group this proportion was 70.0% of patients, in the Xalatan® group – 66.7%. Proportion of patients with true IOP by 12 weeks. treatment was below 18 mm Hg. Art., amounted to 43.3% in the main group, and 40.0% in the control group.

Pathological changes in the visual field (narrowing of nasal isopters to no more than 15º from the point of fixation, arcuate scotoma, paracentral scotomas with exposure of the blind spot) occurred in 38 (63.3%) patients at the first visit. During treatment, the majority of patients (46 people) did not experience any significant changes in perimetry parameters. Deterioration of the visual field (narrowing of nasal isopters, increase in nasal step, size and number of paracentral scotomas) was detected in 4 patients. Positive dynamics of the state of the visual fields (reduction in the size and number of paracentral scotomas, expansion of the peripheral boundaries of the visual field) was observed in 10 patients.

During the entire period of treatment and observation, none of the patients noted systemic adverse events associated with instillation of drugs.

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Local adverse events were noted in 28 (46.7%) patients. Thus, conjunctival hyperemia was observed in 22 (36.7%) patients, of which 12 (40%) in the Xalaprost® group and 10 (33.3%) in the Xalatan® group. Increased length and increased pigmentation of eyelashes were observed in 11 (36.7%) and 9 (30%) patients, respectively. In 2 (6.7%) patients in each group, increased pigmentation of the iris was detected. The severity of local adverse events in patients of both groups was almost the same.

Conclusion

The drug Xalaprost®, eye drops 0.005%, is an effective antihypertensive agent that causes a significant decrease in IOP already on the first day of therapy, ensuring consistently low values of this indicator throughout the entire treatment period.

The investigational drug Xalaprost® and the registered original drug Xalatan® were comparable in effectiveness in reducing IOP and comparable in safety profile.

References:

1. Lin L., Zhao Y.J., Chew P.T., Sng C.C., Wong H.T., Yip L.W., Wu T.S., Bautista D., Teng M., Khoo A.L., Lim B.P.. Comparative efficacy and tolerability of topical prostaglandin analogues for primary open-angle glaucoma and ocular hypertension // Ann Pharmacother. 2014 Dec. Vol. 48 (12). P. 1585–1593.

2. Busacca A., Goldmann H. Schiff-Wertheimer S. Biomicroscopie du corps vitre et Du Fond de l’oeil. Paris, 1957.

3. Кодиров МШ, Жалолиддинов ДЛ. Влияние симуляционных методов обучения на формирование профессиональных компетенций на офтальмолога. Евразийский журнал медицинских и естественных наук. 2023 Jan 27;3(1 Part 2):98-100.

4. Кодиров МШ, Тухтарова МА. СОВРЕМЕННЫЕ ТАКТИКИ ХИРУРГИЧЕСКОГО ЛЕЧЕНИЯ БОЛЬНЫХ КАТАРАКТЫ. Экономика и социум. 2020(3 (70)):335-9.

5. Golan S., Rosenfeld E., Shemesh G., Kurtz S. Original and generic latanoprost for the treatment of glaucoma and ocular hypertension: Are they really the same? // Clin. Exp. Pharmacol.Physiol. 2015. Feb. Vol. 42 (2). P. 220–224.

6. Daka Q., Trkulja V. Efficacy and tolerability of mono-compound topical treatments for reduction of intraocular pressure in patients with primary open angle glaucoma or ocular hypertension: an overview of reviews // Croat Med J. 2014 Oct. Vol. 55 (5). P. 468–480.10. Taxirovich, A.S., 2023. The Main Etiological Factors, Methods of Prevention and Treatment of Meningitis. International Journal of Scientific Trends, 2(2), pp.141-148.

7. Pakirdinov, A. S., M. M. Madazimov, and D. A. Abdukadirov. "FEATURES OF GASTRIC AND DUODENAL ULCERS IN ELDERLY PATIENTS." World Bulletin of Public Health 13 (2022): 63-66.