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Optimization of Surgical Treatment by Autoplasty in Patients with Primary Pterygium

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Annotation: Pterygium is a pathological growth of the conjunctiva on the cornea, which can lead to decreased vision, discomfort and cosmetic defects. In the conditions of Uzbekistan, where solar activity, dry climate and dust factors have a significant impact on eye health, pterygium is a fairly common disease. Surgical treatment remains the main method of combating pterygium , but the relapse rate after standard surgical methods remains high. The autoplastic method, in which conjunctival autotransplantation is transplanted into the pterygium removal area , is a promising method that can significantly reduce the relapse rate. Optimization of this method, taking into account regional characteristics, requires more in-depth study in the context of Uzbekistan.

Purpose of the study

To evaluate the clinical effectiveness of the autoplastic method in the surgical treatment of primary pterygium in patients in Uzbekistan and to propose optimized approaches to reducing the incidence of relapses and improving patient rehabilitation.

Materials and methods of research

Study population: The study included 20 patients diagnosed with primary pterygium who were treated in ophthalmological clinics of Uzbekistan between 2022 and 2024. The average age of patients was 45 years, including 12 women and 8 men. All patients were diagnosed with a progressive form of pterygium with clinical symptoms such as eye irritation, redness, lacrimation, and decreased visual acuity.

Methods of diagnosis and assessment of the condition:

Ophthalmoscopy and biomicroscopy were used to study in detail the structure of the eyeball and the extent of pterygium growth.

Keratotopography to assess the impact of pterygium on the cornea and visual function.

Evaluation of recurrences and postoperative complications was carried out within 12 months after surgery.

Surgical treatment method: All patients underwent surgical removal of pterygium followed by autoplastic conjunctival flap. For autoplastic, tissue from the upper lateral segment of the conjunctiva was used, which was fixed without sutures using bioglue . This method reduced the risk of inflammatory reactions and accelerated healing.

Statistical analysis: Descriptive statistics methods were used to evaluate the results, calculating the frequency of relapses and the occurrence of complications.

Results and discussion

As a result of surgical treatment using autoplastic method, all 20 patients showed significant improvement both in functional and cosmetic terms. Already in the first week after surgery, patients noted a significant reduction in symptoms of irritation, redness and lacrimation. All patients noted an improvement in visual acuity associated with the elimination of pterygium growth.

Recurrence of pterygium was registered only in 2 patients (10%) within 12 months after surgery, which is significantly lower than in traditional surgical methods, where the recurrence rate can reach 30-40%. In these patients, the recurrence developed within the first 6 months after surgery, which is probably due to individual characteristics of tissue regeneration and immune response. In both cases, a second operation was performed, also using the autograft method.

Complications such as infection, inflammation or transplant rejection were not registered. The use of bioglue to fix the transplant allowed to reduce the time of the operation and avoid the risk of complications associated with suturing.

90% of patients showed complete rehabilitation within 2 weeks after surgery. Restoration of normal function and shape of the eye was observed in all patients. The cosmetic effect was also highly appreciated by patients, which emphasizes the importance of choosing the autoplastic method for treating pterygium.

Conclusions

1. The autoplastic method in the treatment of primary pterygium has shown high clinical effectiveness, providing a significant reduction in the frequency of relapses and rapid restoration of visual functions.
2. The use of bioglue to fix the transplant is a safe and effective method that minimizes the risk of complications and accelerates healing.
3. Optimization of surgical treatment of pterygium using autoplasty is the preferred method in the conditions of Uzbekistan, taking into account the climatic and social factors that contribute to the development of the disease.
4. Further studies involving larger patient samples are needed to clarify the long-term efficacy and safety of this method.

Thus, the autoplastic method in the treatment of primary pterygium can be considered the most optimal in terms of preventing relapses and improving the quality of life of patients in Uzbekistan.

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