



## Use of Pallada in the Treatment of Allergic Conjunctivitis, Adenovirus Keratoconjunctivitis and Keratoconus

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**Abstract:** This article examines the specifics of the drug, its prospects for use in the treatment of allergic conjunctivitis, as well as adenovirus keratoconjunctivitis and keratoconus.

**Key words:** Pallada, keratoconus, keratoconjunctivitis, ophthalmologist, drug.

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In ophthalmological practice, various means with antiallergic effect are used. There are two main groups of antiallergic drugs: fat cell membrane stabilizers and antihistamines. In addition, non-steroidal and steroidal anti-inflammatory drugs have anti-allergic properties.

The most effective antiallergic drugs are drugs from the group of fat cell stabilizers. Drugs of this group stop the degranulation of conjunctival fat cells, prevent the induction of histamine and other mediators by antigens, which allows to block the development of an allergic reaction from the beginning.

### Mechanism of allergic reactions

Acute allergic or anaphylactic reaction is mainly due to the release of immunoglobulins E on the surface of fat cells (MC) and basophils, which lead to the release of vasoactive amines, as well as various hematactive factors when in contact with allergens. The function of fat cells is primarily related to the secretion of mediators - histamine and heparin - into the environment. The morphological manifestations of secretion are degranulation and granulolysis of MC.

The released mediators provide a number of pharmacological effects that cause an inflammatory reaction of the conjunctiva. There is evidence of the role of fat cells in allergic antigen-antibody reactions and in delayed-type hypersensitivity. Fat cells are present in all eye tissues, except for the intact cornea, lens, optic nerve, and retina. Their number increases in allergic conjunctiva and eyelids, keratitis, uveitis, inflammation and some tumors of the orbit and eye.

Undoubtedly, drugs that have a stabilizing effect on SX and inhibit the release of histamine and other inflammatory mediators are the most valuable in the treatment of allergic eye diseases, preventing the development of an allergic reaction.

**These drugs include pallada (olopatadine).**

In our work, we want to present the clinical results of the use of palla in the treatment of keratoconus, allergic conjunctivitis and complex adenovirus keratoconjunctivitis.

### **Allergic conjunctivitis**

Pallada eye drops were used in 22 patients with allergic conjunctivitis. Clinically, swelling and hyperemia of the conjunctiva predominated, narrowing of the palpebral fissure, worsening of visual acuity, foreign body sensation in the eye, as well as unbearable itching and irritation. In all cases, the patients had no signs of bacterial or viral infection, which was confirmed by the results of bacteriological and virological examination of the smears and cuts taken from the conjunctiva. All patients were instructed to instill 1-2 drops 2 times a day. In the first 3 days of palladium use, all patients reported a positive effect of the drug, which was manifested by a decrease in the sensation of congestion, itching and lacrimation. In addition, swelling and hyperemia of the eyelids and conjunctiva gradually decreased. Significant improvement was observed in the majority of patients (18 people) after the use of the 8-day phase. After 8 days of palladium application by 4 patients, partial improvement noted significant positive dynamics in eye condition. Complete regression of disease symptoms occurred within 10-15 days. Thus, it has proven to be a highly effective tool in the treatment of allergic conjunctivitis.

### **Keratoconjunctivitis with complicated adenovirus**

Adenovirus infection, along with ophthalmic herpes, is the most common type of viral pathology of the eye. Adenoviral keratoconjunctivitis (MCAC) is highly contagious and often takes the form of an epidemic. In recent years, complex forms of MCAC, characterized by a chronic, recurrent course, have begun to appear in clinical practice. Their occurrence is associated with strain characteristics of the pathogen (serotypes 5, 6, 8, 9, 19, 37), its association with the herpes virus, a decrease in overall immunity in the population, and the consequences of irrationally applied therapy. According to our data, 35% of MCAC is complicated by the development of a toxic-allergic reaction. Toxic-allergic reactions occur as a result of long-term use of chemotherapeutic antiviral agents such as florenal, tebafen, bonafton. In addition, in patients with frequent adenovirus infection, herpes infection of the eye is misdiagnosed and antigerpetic therapy is prescribed - IDU drops (5-iodine-2-deoxyuridine), acyclovir ointment, which also leads to the development of an allergic reaction will come. We followed 25 patients with MCAC complicated by a toxic-allergic reaction. Clinically, toxic-allergic reactions are manifested by severe hyperemia of all parts of the conjunctiva, infiltration, swelling of the corneal epithelium, the development of symptoms of dermatoblepharitis and dermatitis of the facial skin, unbearable itching. Antiviral therapy consisting of instillation and periocular injections of interferonogenic poludana was supplemented by intravenous infusion (2 times per day). After 5 days of drug use, significant improvement was observed in 23 out of 25 patients. Recovery occurred within  $10 \pm 2$  days. Criteria for recovery include loss of signs of allergic process - discharge from the conjunctival cavity, swelling and hyperemia of the eyelids and conjunctiva, regression of dermatoblepharitis and dermatitis, as well as adenovirus inflammation - increased resorption of corneal infiltrate, co. Decreased growth, disease. Thus, the gradual addition to the treatment regimen for MCAC complicated by a toxic-allergic reaction helped to quickly eliminate the symptoms of the allergic process.

### **Keratoconus**

Most authors note the impairment of the immune status in patients with keratoconus, which manifests itself in the form of allergic conjunctivitis and blepharitis, dermatitis, asthma, and others.

According to the joint data of the candidate of medical sciences, associate professor G.R.Odilova, immune inflammation is an important factor in the pathogenesis of keratoconus. Morphological study of conjunctival biopsy specimens in patients with varying degrees of keratoconus revealed clear infiltration of the subepithelial and stromal conjunctiva with a predominance of MC in the cell structure, a characteristic cellular element involved in all stages of immune inflammation. Immune inflammation occurs as a result of lysis of the corneal stroma and fixation of immune complexes in the conjunctiva. The cell interaction in the infiltrate and the condition of the microtomers depend on the amount of MC in the infiltrate and the degree of their degranulation. An increase in the amount of MC and their degranulation leads to the release of histamine, which first leads to persistent vasospasm, followed by ischemia, edema, and hypoxia. This leads to metabolic disorders not only of the conjunctiva but also of the cornea. Under such conditions, it is recommended to use a palladium that stabilizes the MC membrane and inhibits the release of histamine.

It was used in the early postoperative period in 8 patients who underwent penetration keratoplasty (PKP) for keratoconus.

Patients complained of severe photophobia, lacrimation, conjunctivitis, and bright hyperemia of the eyelids, the symptoms of which were accompanied by intense itching and irritation.

In such cases, conventional corticosteroid therapy was supplemented by intravenous infusion 4-6 times a day.

One week after drug administration, significant improvement was noted in 6 patients. The remaining 2 patients reported significant improvement after a 10-day period.

Positive dynamics were manifested in acute photophobia and lacrimation, itching, burning, a feeling of constant congestion of the eye, loss of eyelids and conjunctival hyperemia. As a result, the transplant condition improved and visual acuity increased.

Noting the undoubted effectiveness of palla in the treatment of the postoperative period in patients with keratoconus with PKP, it should be noted that the drug can be recommended in patients in the early stages of keratoconus, which do not require surgical intervention.

### Conclusion

In conclusion, it should be noted that studies have shown high efficacy of palla as a monotherapy in the treatment of allergic conjunctivitis. In addition, the addition of phallus as a symptomatic therapy in the treatment of MCAC complicated by the development of a toxic-allergic reaction can significantly shorten the treatment time of patients and quickly alleviate their condition. The use of palate as a pathogenetic agent in the early postoperative period in patients with PKK for keratoconus allows rapid normalization of the conjunctiva, reduction of redness and irritation of the eye and swelling, which leads to eye growth. creates more favorable conditions for corneal graft and consequently an increase in visual acuity. It is also recommended in patients with early stages of keratoconus when symptoms of an allergic process appear.

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