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ETIOLOGY OF ALLERGIC KERATITIS AND THIS DISEASE WITH OTHER INFLAMMATORY DISIASES

Annotation: Allergic keratitis is an inflammatory change in the cornea of the eye associated with the development of an acute allergic reaction. Manifestations of allergic keratitis include corneal syndrome (photophobia, lacrimation, blepharospasm), mixed conjunctival-pericorneal injection, and superficial corneal infiltrates. Diagnosis of allergic keratitis is based on external examination, visual acuity testing, biomicroscopy, analgesimetry, corneal fluorescence staining, microscopy and seeding of corneal prints, intradermal allergic tests, etc. Treatment of allergic keratitis requires local corticosteroid therapy, taking antihistamines.

Key words: inflammation, allergic factor, allergic keratitis.

The cornea is the front part of the outer shell of the eye, located in the eye slit, and is the most important element of the light-refractive apparatus. The most important functions of the cornea are to protect the eye from mechanical, thermal and other damage, ingress of microorganisms and dust. The properties of the cornea – transparency, surface curvature, sphericity, structural and optical uniformity-largely determine the state of vision. In clinical ophthalmology, allergic keratitis is considered as a local manifestation of an acute allergic reaction. Allergic keratitis occurs more often in childhood and adolescence and occurs together with allergic conjunctivitis.

Reasons

Allergic keratitis can be caused by various exo-and endo-allergens. Exogenous allergens are most often medicines (including vaccines), food products, plant pollen, animal hair, household chemicals, cosmetics, etc. At the same time, the occurrence of drug-allergic keratitis can be caused by both local applications of drugs and their parenteral administration.

Endogenous allergens include bacterial toxins in the tear fluid, helminthic infestations, and tuberculosis intoxication. Against the background of helminthiasis, not only the clinic of allergic keratitis, conjunctivitis, blepharitis, iridocyclitis, but also atopic dermatitis, pollinosis, and bronchial asthma can develop. A special group consists of tuberculosis-allergic keratitis caused by tuberculosis intoxication. In this form of allergic keratitis, Mycobacterium tuberculosis is not detected, but positive specific tuberculosis tests (Mantoux reaction, Pirke test) indicate a high sensitization of the body.

Pathogenesis

With allergic keratitis, there is swelling and subepithelial infiltration of the cornea. Single or multiple corneal infiltrates are localized in different parts of the shell and at different depths, have different shapes and sizes. In the area of infiltration, the cornea loses its luster. With superficial allergic keratitis that occurs with the involvement of the epithelial layer, infiltrates can resolve without a trace. If deeper corneal layers are interested, scar tissue forms at the site of inflammatory foci, and more or less pronounced areas of opacity remain.

Allergic keratitis is accompanied by vasodilation - conjunctival-pericorneal injection; erosion and ulceration of the corneal tissue are often noted. Microscopic changes are characterized by desquamation and transformation of the epithelium, lymphocytic reaction of the tissue, and damage to the Bowman's membrane.

Classification

Depending on the influencing factors, keratitis is divided into exogenous (caused by etiological agents of the external environment) and endogenous (caused by internal causes). The development of allergic

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conjunctivitis can be caused by both exogenous and endogenous causes. By etiology, keratitis is divided into:

- bacterial (non-specific and specific
- for tuberculosis, syphilis, malaria, brucellosis)
- viral diseases (adenovirus, herpetic, measles, smallpox)
- toxic-allergic diseases (flictenular, scrofulous, allergic)
- exchange rates
- fungal diseases
- neurogenic diseases
- post-traumatic events
- acanthamoebae, etc.

According to the degree of involvement of the corneal layers, there are superficial keratitis that occurs with damage to the epithelium and Bowman's membrane, and deep keratitis, in which the stroma and Descemet's membrane of the cornea are involved in inflammation. By localization, keratitis can be peripheral, central; by the degree of prevalence - limited or diffuse.

Symptoms of allergic keratitis

The clinical picture is characterized by the so-called corneal syndrome, which includes photophobia, profuse lacrimation, and a sharp narrowing of the ocular fissure (blepharospasm). Irritation of the nerve endings of the cornea in allergic keratitis leads to a sharp and burning sensation in the eye, a feeling of a foreign body, constant pain, because of which the patient can not open the eye. Pericorneal or mixed conjunctival-pericorneal injection occurs (redness of the eyeball). Due to the development of opacity in the optical zone, there is a decrease in visual acuity. After the cessation of allergic keratitis, vision in most cases is not restored. Tuberculosis-allergic keratitis occurs with subfebrility, malaise.

Complications

When an inflammatory reaction with an allergic component spreads to the iris, sclera, or ciliary body, iritis, scleritis, and iridocyclitis occur. Severe or prolonged allergic keratitis can lead to corneal perforation, secondary glaucoma, complicated cataracts, optic neuritis, and endophthalmitis. Inflammatory lesions of the cornea often lead to irreversible changes in the cornea and a persistent decrease in vision up to complete blindness.

Diagnostics

An ophthalmologist and an allergist take part in the diagnosis of allergic keratitis, and if necessary, a phthisiatrist. Ophthalmological examination for allergic keratitis includes eye examination, visual acuity testing, biomicroscopy, corneal fluorescence staining test, and analgesimetry. Intradermal allergic tests are performed to detect the allergen. In the case of joining a secondary infection, the pathogen is detected using a bacteriological smear test.

To exclude helminthiasis, feces are examined for worm eggs. If tuberculosis-allergic keratitis is suspected, X-ray of the lungs or fluorography, tuberculin tests are indicated. Differential diagnosis of allergic keratitis is performed with keratitis of viral, fungal, and bacterial etiology.

Treatment of allergic keratitis

First of all, it is necessary to stop contact with the allergen and eliminate it. Topically prescribed installations of a 0.4% dexamethasone solution, laying eye ointments (prednisolone, hydrocortisone); in severe allergic keratitis-subconjunctival injections of dexamethasone. For chronic recurrent infectious and allergic keratitis, long-term courses of steroid hormones are prescribed inside.

An obligatory component of the treatment of allergic keratitis is taking antihistamines (chloropyramine, mebhydroline, hifenadine, clemastine, etc.), vitamins C and B2 (riboflavin), sedatives, calcium chloride inside or intravenously. In the case of stratification of bacterial infection, instillation of a solution of sulfacetamide, sulfapyridazine-sodium, levomycetin, tetracycline

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hydrochloride and other antibacterial agents is performed. When helminth infestations are detected, anthelmintic drugs are prescribed.

Treatment of tuberculosis-allergic keratitis is carried out with the participation of a phthisiatrician. Patients are additionally prescribed antitubercular therapy with streptomycin, isoniazid, ftivazid, etc.; physiotherapy is performed: electrophoresis of streptomycin, calcium, hydrocortisone, general UVR.

If visual acuity decreases, phonophoresis and electrophoresis with hyaluronidase are indicated. With scarring of the cornea, keratoplasty is performed, and with the development of secondary glaucoma, surgical or laser treatment of glaucoma is performed.

Prognosis and prevention

Timely and rational treatment of superficial allergic keratitis leads to the fact that corneal infiltrates resolve without a trace or with minimal consequences for vision. The consequence of deep keratitis is the development of corneal opacities, a significant decrease in visual acuity or its complete loss. Prevention of allergic keratitis consists in eliminating contact with allergens, deworming children, and treating tuberculosis intoxication.

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