MODERN MEDICINE AND PRACTICE
https://inovatus.es/index.php/ejmmp
EUROPEAN JOURNAL OF MODERN MEDICINE AND PRACTICE
Vol. 4 No. 11 (Nov - 2024) EJMMP ISSN: 2795-921X

APPLICATION OF GENETIC RESEARCH IN DIAGNOSTICS OF HEREDITARY DISEASES OF THE RETINA

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Annotasiya: The main symptom of dry eye syndrome is dryness of the conjunctiva and cornea. It is manifested by discomfort in the eyes, which is a consequence of increased friction of the eyelids on the mucous membrane. When the tear film becomes too thin, there is a burning sensation, a feeling of sand or a foreign body. Against the background of dryness, there is a temporary increase in the production of tear fluid - lacrimation begins, but this does not lead to an improvement in the situation due to the instability of the formed film. Symptoms increase in the evening or under the influence of an eye-irritating factor - wind, smoke, eye drops.

Keywords: Redness of the conjunctiva, Tired eyes, worse in the evening., Changes in visual acuity during the day, Increase the sensitivity of the eyes to light.

Diagnostic methods

The first thing an ophthalmologist does when dealing with a patient with suspicion of dry eye is to conduct a survey, collect anamnesis, and perform an examination to identify symptoms characteristic of dry eye syndrome. The doctor determines the causes and severity of the disease by conducting the following studies:

Analysis of tear fluid allows to evaluate its microbiological and chemical composition.

Biomicroscopy - assessment of the height of the tear meniscus and the condition of the cornea.

The Schirmer test is a method of assessing the rate of tear production using a litmus strip.

The Norn test is a method of estimating the rate of evaporation from the surface of the eye. If you have dry eye symptoms, drops that color the tear film can help you understand how quickly it evaporates.

When diagnosing dry eye syndrome, an ophthalmologist looks for symptoms that are characteristic of it. If mucin threads are detected, tear meniscus reduction, corneal erosion, insufficient tear production or rapid evaporation, the diagnosis is confirmed.

Methods of treatment of dry eye syndrome

It is not possible to completely cure dry eye syndrome, but it is possible to eliminate its symptoms and prevent their occurrence in the future. Regardless of the cause of dry eye syndrome, treatment always includes the use of eye drops to moisten the surface of the conjunctiva and cornea. They form a stable tear film and eliminate dryness. For mild symptoms of dry eye syndrome, the ophthalmologist prescribes low-

viscosity agents. In severe cases, treatment of dry eye syndrome with medium-viscosity drops or gel-like preparations is indicated.

For severe symptoms of dry eye syndrome, the doctor also prescribes treatment with drops that have anti-inflammatory, metabolic and immunostimulating effects. They help to eliminate the effects of dry membranes and prevent changes in the cornea that can cause vision impairment.

Treatment with drops for dry eye syndrome is the main, but not the only, method of combating dryness. If conservative treatment is not effective enough, the ophthalmologist may recommend surgery. Types of operations performed for dry eye syndrome:

Blocking the tear ducts - they stay on the surface of the eye longer. The operation can be performed in different ways, but usually the tear ducts are closed with silicone plugs - this is a minimally invasive and safe method.

Keratoplasty is an operation aimed at eliminating defects of the cornea and restoring its shape and functions. This is done in the case of pathological changes in the cornea, ineffectiveness of conservative therapy and closure of the lacrimal ducts.

Lateral tarsorrhaphy is an operation aimed at reducing the evaporation of tear fluid. It is performed in patients with incomplete eyelid closure. The surgeon sews the upper and lower eyelids in the outer corner. After that, the palpebral fissure begins to close completely when blinking, so the entire front surface of the eye is wet with tears.

Treatment for dry eye syndrome may include transplantation of the patient's own salivary glands or the installation of soft tissue dacryoreservoirs with a tube inserted into the conjunctival cavity.

The main goal in the treatment of dry eye syndrome (DES) is to preserve the cornea, protect its structures from damage and reduce discomfort. Several treatment methods can be used at the same time.

Ophthalmologists distinguish several types of therapy for the treatment of dry eye syndrome.

- Reparative therapy to eliminate damage to the eye surface. Reparative drugs are aimed at restoring damaged areas. Usually these are ointments and gel-based products.

Tear replacement therapy aims to replace insufficient tear volume and prevent tear film rupture. Many drugs contain hyaluronic acid.

Tear conservation therapy allows you to conserve your own tears. Therapy is prescribed as an adjunct to drug treatment and very often as an alternative to eye drops. Occluders are installed in lacrimal holes, some of them dissolve by themselves;

Anti-inflammatory therapy relieves inflammation and prevents the development of the disease. To supplement natural tear production, tetracyclines, cyclosporine drops, and anti-inflammatory drugs are prescribed.

Stimulation therapy restores and normalizes the activity of the secretory glands. Usually these are dietary supplements - omega-3, mineral complexes, vitamins.

Physiotherapy stimulation, therapeutic effects methods are used to release natural tear production:

exposure to polychrome light;

laser stimulation;

magnetic stimulation;

subconjunctival administration of drugs with autologous blood plasma - PRP technology.

The frequency and number of physiotherapy sessions depends on the level of dysfunction, the stage of the syndrome and the dynamics of the result. One of the causes of dry eye syndrome is a malfunction of the meibomian glands. Conservative methods are used for treatment - eyelid hygiene and warm compresses. Ophthalmologists also prescribe antibiotics, fatty acids, anti-inflammatory drugs, demodex infestation control, and hormonal therapy.

Preventive measures

To prevent the development of dry eye syndrome and reduce the symptoms of the existing disease, you need:

Monitor your blink rate during reading, computer work, and other activities that require increased visual attention.

If possible, reduce the time spent on the computer, phone, tablet, TV, books, etc.

Keep your computer monitor or phone screen below eye level.

Maintain normal air humidity in buildings (50-60%). You can use humidifiers for this.

Avoid using eye drops that contain preservatives.

Avoid harmful effects on the eyes (e-cigarette vapor, tobacco smoke).

Do not use contact lenses for longer than recommended by the manufacturer.

Optimizing working conditions. The risk of DHS is high among firefighters, cooks, auto repair workers, paramedics, miners, welders, construction workers: those who work with extreme temperatures, dust, fumes and chemical fumes. Prevention consists in reducing the effects of harmful working conditions. For example, if the work involves dust, wear construction goggles.

Pay attention to air humidity. The room should have optimal air humidity - at least 50-60%. If the figure drops below 30%, consider purchasing a humidifier. Additional helpers will be indoor plants and regular wet cleaning.

Reduce the time spent on a computer, tablet or smartphone. When working at the computer for a long time, the frequency of blinking decreases and the strain on the eyes increases. Editors, office workers, copywriters, IT professionals and designers are at risk. If your work is related to the computer and it is not possible to reduce screen time, do not forget about regular eye exercises and proper organization of your workplace. Try not to take other gadgets while on vacation, but look at the distance. Also, take care of adjusting the screen (you can reduce the brightness) and the proper lighting of the room (you can install blinds and thick curtains to prevent glare on the screen).

The risk of developing dry eye syndrome is reduced by following a drinking regimen and proper nutrition enriched with vitamins and minerals. Timely detection and treatment of diseases of the endocrine system is important for eye health.

Summary

Dry eye syndrome is a disease whose main symptoms are dryness and associated discomfort. Tear glands develop when they do not produce enough fluid to lubricate the cornea and conjunctiva, or for some reason, the fluid evaporates too quickly. According to the diagnostic results, only a doctor can tell you how to get rid of dry eye syndrome. Self-treatment is not allowed, because it only relieves the symptoms of dry eye syndrome, and worse, worsens its course. Therefore, if your eyes are dry or burning, you should consult an ophthalmologist.

Diagnosis and treatment of dry eye syndrome in Moscow is carried out in the network of Mositalmed clinics. Call to make an appointment with an ophthalmologist or submit an online request for a call back.

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