

Application of bioresonance therapy and biometric diagnostics  
with dry eye syndrome

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In the last 10–15 years, the number of patients who turn to ophthalmologists for problems described in the modern literature as “dry eye” syndrome has significantly increased. Complaints of burning, cramps and pain in the eyes, feeling of a foreign body, redness of the conjunctiva, photophobia and lacrimation prevail. At the same time, the etiological structure of this pathology has significantly changed: if earlier such conditions were more often caused by the consequences of acute infectious diseases and eye injuries, less often - by congenital pathology or systemic diseases, nowadays, chronic inflammatory diseases of the organ of vision, the adverse effect of external factors come to the fore, including medications, allergic and neurogenic reactions. And correspondingly, if earlier a good therapeutic effect was achieved by prescribing antimicrobial, antiviral and anti-inflammatory drugs and tear fluid substitutes, then in recent years the effectiveness of such treatment has significantly decreased. In this work, we will try to determine the causes and ways of solving this problem.

Keratoconjunctivitis dry (SSC), or dry eye syndrome, is a complex of symptoms of corneal xerosis caused by a violation of the composition and stability of the pre-corneal tear film. It should be noted that the lacrimal gland produces tear fluid mainly with severe irritation or damage to the eye, as well as with psycho-emotional reactions. In the normal state, the lacrimal film is mainly formed by various small glands of the eyelids and conjunctiva, so it is advisable to consider their role in the pathogenesis of SSC.

The pre-corneal tear film is made up of three components or layers that have different functions.

The lipid (outer) layer with a thickness of about 0.1 mm is formed due to the secretion of the Meibomian glands and the Zeiss glands located on the eyelids. It consists of cholesterol and wax, has hydrophobic properties, stabilizes the tear film, preventing it from overflowing over the edge of the eyelid, and reduces its excess evaporation and heat transfer. The lack of this component may be due to chronic blepharitis, dysfunction of the Meibomian glands, or exposure to external aggressive substances.

A 6–9 mm thick watery layer is synthesized by Krause and Wolfring, located in the conjunctiva of the eyelid cartilage and by the Moll glands (near the eyelash follicles), as well as by the main lacrimal glands. It consists of water, electrolytes and organic compounds (immunoglobulins, enzymes, etc.). The main functions of this component are trophic (including oxygen delivery), optical (leveling irregularities), protective (bactericidal action, removal of foreign bodies and metabolic products). Lack of tear fluid can be congenital (cystic fibrosis) or acquired (Sjögren's syndrome, sarcoidosis, SLE, and other systemic

diseases, neurogenic, psychogenic or drug-toxic hyposecretion). Accelerated drying of tears is also possible due to deformations or impaired mobility of the eyelids, climatic factors.

Mucin (inner layer) less than 0.1 mm thick is secreted by goblet cells, Manz's glands and Henle's crypts located in the conjunctiva. It coats the hydrophobic epithelium of the cornea and has hydrophilic properties, providing gliding of the eyelids, transport between the aqueous fraction and the epithelium, cleansing the cornea and its strong connection with the tear film. Deficiency of mucin can be caused by a deficiency of hormones, vitamin A, scarring of the conjunctiva after inflammation, burns or radiation injuries.

Thus, the violation of the stability of the pre-corneal tear film is associated with a violation of one or more fractions, leading to the formation of areas of the cornea not covered with tears. With a sufficiently long existence, this condition leads to damage to the epithelium of the conjunctiva and cornea, the addition of inflammation, as a result of which excessive stimulation of nerve fibers, the release of cytokines and toxins, and other changes that further worsen the condition of the tear film are possible. In recent decades, man-made factors (air conditioners, radiation from monitors, high-frequency devices), changes in the environment and the nature of food, long-term use of

potent drugs (systemic and contact lens sites, refractive surgery, noe), wearing etc.)

Traditional drug treatment often not leads To significant lasting improvement or recovery. Eye drops and gels, including the preservatives they contain, can cause allergies or toxic effects, aggravate microflora changes and impairment of epithelial regeneration, which can lead to the progression of the disease. Moisturizers usually work well but are short-lived. All these circumstances make new, systemic approaches in the treatment of SBS to hiccup, aimed at eliminating the underlying causes of the disease, restoring

violated self-regulation organism patient with using an individual approach to therapy.

Use of biometric diagnostic methods - vegetative resonance test (ART) "IMEDIS-TEST", electropunctural diagnostics according to R. Voll allows solving the diagnostic tasks necessary for the implementation of such an approach. Identification of various burdens and loads allows you to choose ways to neutralize or eliminate them and help the body restore the ability to heal itself. In many patients, several loads are tested (more often - viral and fungal burdens, psycho-vegetative loads, changes in the immune and endocrine systems). The meridians of the stomach, triple heater, large intestine, and bladder were primarily affected by the meridians. Frequent damage to various parts of the autonomic nervous system, cranial nerves (trigeminal, facial), pterygopalatine and cervical ganglia, less often the external carotid and temporal arteries was noted.

Patients were treated with IMEDIS-EXPERT, IMEDIS-BRT-A and MINI-EXPERT-T devices. Based on diagnostic

data, an individual therapy program was selected: elimination of loads using magnetotherapy and homeopathic complexes, work on the most affected meridians with introduction into the therapeutic circuit organopreparations, nosodes and chelators, selection of induction therapy programs, recording of frequency programs and organopreparations, as well as inverse preparations of lacrimal fluid on the eye drops used by the patient.

In total, the results of treatment of 16 patients with moderate and severe SSC (in accordance with the accepted classification) were analyzed. The initial and dynamic examination included a slit lamp examination (with fluorescein staining), Schirmer's tests 1 and 2, and a study of the tear film rupture time. All patients previously received conventional treatment for a long time (from 6 months to 3 years, average 14 months). The effect of the treatment was unstable and often insignificant, in 12 cases the disease clearly progressed, in 7 patients there was an allergy to most drugs used to treat SSC.

The procedures were usually carried out once every 3 days at the beginning of the course (3-5 sessions) and once every 7-10 days at the end of the course. The total number of sessions averaged 9 procedures (from 6 to 15, depending on the severity of the pathology and the patient's response). A dynamic study of biometric indicators was also carried out, in compliance with which the tactics were adjusted, moisturizing treatment. Locally drugs were used (lacrisin, heal, mainly long-acting, drugs, okomod, oftigel) stimulating reparative processes in the cornea (taufon, ballarpan), on which therapeutic frequencies and organopreparations were recorded. General and private BR drugs were prepared and prescribed according to generally accepted rules. If necessary, vitamin complexes were prescribed inside.

#### Clinical results

In all cases, after 3-4 sessions, there was a steady positive dynamics: improvement of well-being, improvement of indicators of the condition of the tear film, reduction or disappearance of corneal erosion, reduction of injection. Later, after the disappearance of symptoms (12 patients) or significant persistent improvement against the background of drug therapy withdrawal, treatment was terminated. At the end of the treatment, two patients received a constitutional preparation selected by a homeopath. 10 patients were examined after 6 or more months, the recurrence of symptoms of BCC was noted in two, but in a much weaker form (1st or 2nd stage).

#### conclusions

Thus, the use of biometric diagnostics makes it possible to determine the main etiological and pathogenetic factors in the development of SSC and to develop an individual tactics for the treatment of patients with this severe and widespread pathology, often resistant to the generally accepted drug treatment. Diagnostic data allow to optimize the use of bioresonance therapy and in a relatively short time to achieve recovery or significant stable improvement in this category of patients. In severe cases, additional treatment may be required: a repeated course of bioresonance therapy, constitutional homeopathy,

continuation application moisturizing and tropho-stimulating medications in a lower dosage compared to the original dosage.

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