Innovative technologies for color correction of vision and immunodeficiency in patients with cataracts

T.P. Teterina
(Center of Color Therapy "TETTA", Moscow, Russia)

Introduction

Clouding of the lens of the eye is called cataract, which in Greek means "waterfall". This is due to the idea of a cloudy gray film descending from above onto the pupil like a waterfall. The most common is acquired age-related progressive cataract, which occurs after age 40. In persons aged 60 and over, it ranges from 60 to 90%. The first signs of an initial cataract (cataracta incipiens) are flies, fog, dark spots before the eyes, vision instead of one light bulb of several luminous bulbs and moons, photophobia, deterioration of distance vision. Patients have improved vision without glasses when reading near, which is associated with the transition of age-related hyperopia to myopia due to swelling of the lens. The second (immature) stage of cataract (cataracta nondum matura) is characterized by the progression of lens opacity. In this case, the pupil, instead of black, acquires a grayish color. Visual acuity is reduced to hundredths or counting of fingers at the face. In the third (mature) stage of cataract (cataracta matura), the pupil is white, visual acuity decreases to light perception.

Attempts to treat cataracts in a conservative way have been undertaken since ancient times to the present day. However, no means of conservative treatment stop the development of cataracts. Therefore, ophthalmologists came to the conclusion that there are no drugs and other means that could prevent or stop the development of cataracts.

Currently, the main method of treating cataracts is various types of surgical operations. However, despite the high achievements of modern surgery, complications are often observed [1]. In this regard, patients experience visual discomfort, dissatisfaction with the outcome of the operation, as well as mental stressful experiences. In addition, operations are contraindicated in many patients due to the general state of health and, therefore, they are doomed to complete blindness.

Thus, the search for new technologies based on non-drug and non-surgical prevention and treatment of cataracts is a social problem. Due to the fact that the etiology of cataract still remains controversial and unclear, and therefore, until now, there are no methods of conservative treatment, we put forward a new pathogenetic concept of the etiology of cataract and, accordingly, a new approach to its prevention and treatment.

T.P. Teterinum regarding the etiology of cataractLiterature data indicate that the lens is electronegative [2]. However, the essence of this property inside the lens remains unknown. It is known that the lens substance contains the same trace elements that carry electrical charges (ions K +, Na +, Ca +, Cl-), which are contained as

inside and outside the cells of the body. Due to their active transport, bioelectric phenomena arise - the processes of distribution and transport of electric charges, which is the basis of the vital activity of the cell and the organism as a whole [3]. In the lens, under the influence of the energy of visible light, the same regularities of photoelectric processes of photosynthesis are carried out, as in the specialized membrane organelles of the cells of the body. The condition for the normal functioning of the cell is the conjugation and balance of two processes - the process of oxidative phosphorylation and the process of biological oxidation. These two processes are interconnected and proceed simultaneously, but according to the "swing" principle due to the interaction of positively and negatively electrically charged particles (protons and electrons). In this case, the synthesis of compounds rich in energy, especially ATP, is carried out. When these two processes of photosynthesis are imbalanced, mitochondria swell, increase the permeability to ions, which has a damaging effect on nucleic acids. The consequence of this can be cell death, inactivation of enzymes and destructive processes. The normal functioning and existence of the cell becomes impossible. Similar changes are observed in the lens. So, in the initial stage of cataract, the lens swells and its volume increases, which leads to a deterioration in vision due to a change in the refraction of the eye. If the patient had normal distance vision, and read close up with glasses due to age-related farsightedness, then with the transition of emmetropic or hyperopic refraction to myopic refraction, he will see poorly into the distance, but can read up close without correction. In this initial stage of cataract, the process can still be reversible with full restoration of visual functions. In a progressive, far-reaching stage of the process, in which cell death, enzyme inactivation and destructive irreversible processes in the lens occur, a complete restoration of visual functions is not possible. It is known that short-wave rays are completely absorbed by the lens, and strong fluorescence occurs in ultraviolet light. Based on our hypothesis regarding the etiology of cataract, a method and device was proposed for treating the initial stage of cataract by stimulating the visual analyzer with a short-wavelength spectrum of visible light [4]. The studies carried out have shown the high efficiency of this method. However, due to the fact that the development of cataracts is accompanied by violations of other structures of the eye (retina, optic nerve), as well as functional systems of the body, indirectly affecting the development of cataract and its progression, we have developed a new universal technology that provides correction of not only visual disturbances, but also systemic functional disorders in the body. This technology is based on the "swing" principle.

Purpose of the research: to study the effectiveness of innovative technologycolor correction of vision and immunodeficiency in cataract patients.

Material and methods

We studied the dynamics of visual acuity in 180 patients (360 eyes)

with cataracts between the ages of 35 and 84. The average age was 59.8 ± 4.2 years. There were 67 men, 113 women. Along with the generally accepted ophthalmological examination, an immunological study was carried out in 11 people, which included: determination of the level of leukocytes, counting the leukocyte count and ESR, determination of a subpopulation of lymphocytes: mature T-lymphocytes (CD 3), T-lymphocytes- helpers (CD 4), suppressor-killer T-lymphocytes (CD 8), B-lymphocytes (CD 72) and natural killer lymphocytes (CD 16), determination of the level of immunoglobulins of the main classes (IgG, IgA, IgM); determination of indicators of activity of phagocytosis and hemolytic activity of complement and titer of rheumatoid factor [5].

Patients with the initial stage of cataract (first group) - 55 people (110 eyes) and advanced stage of cataracts (second group) - 71 people (142 eyes) underwent color correction for 10 days. Patients of the third group - 55 people (110 eyes) received drug treatment for 6 months or more. Most of the patients suffered from chronic systemic psychosomatic pathology, including immunodeficiency. Color correction was carried out with the help of Teterina's “ACT-02” apparatus [2], which, through a visual analyzer, affects the regulatory structures of the brain (hypothalamus, pituitary gland, etc.) with the spectrum of visible light.

Results and Discussions

Studies have shown that in patients with the initial stage of cataract, the initial visual acuity in the distance was in the range from 0.5 to 0.8 and averaged 0.65, and according to the table for near, most of them did not distinguish the font without correction. After a course of color correction (10 sessions), visual acuity in 91.8% of cases normalized both far and near and averaged 0.95 and 0.8, respectively. Lens opacities disappeared, which indicates the reversibility of the process. In patients with advanced stage of cataract, the initial visual acuity ranged from 0.1 to 0.4 and averaged 0.29. Ophthalmic surgeons offered many of them a cataract extraction operation, which they refused due to a violation of the general condition of the body. After the course of color correction, visual acuity improved in 100% of cases, of which 69% - in the range from 0.5 to 0.8, and on average it was 0.55 ± 0.18; m ± 0.03. This significantly ensured visual work at close range and free orientation in space without assistance. In the control group, the initial corrected distance visual acuity averaged 0.5 ± 0.2; m ± 0.03, and when examined after 6 months it was only 0.3 ± 0.18.

According to immunological studies, the patients showed shifts in the immune system and significant differences before and after color correction. At the same time, normalization of indicators of diabetes was noted.3, SD4, SDeight and IgM level, IgA level, rheumatoid factor and complement hemolytic activity.

conclusions

Innovative color correction technologies have:

1) highly effective in cataract prevention and normalization visual functions, especially in the early stages of its development;

2) implement the mechanism of immunocorrection through the photoenetic system: eye - hypothalamus - pituitary gland;

3) have a corrective effect in systemic functional psychosomatic disorders of the body.

Literature

1. JAFFE NS Cataract surgery and its complications. St. Louis, 1976.

2. Shmeleva V.V. Cataract. - M .: Medicine, 1981 .-- 221 p.

3. Teterina T.P. Light, eye, brain. Principles of color therapy. - Kaluga, 2000. - 205 p.

4. Teterina T.P., Volkova L.P. A method of treating initial cataracts. RF patent No. 2030908, 1991.

5. Teterina T.P. Teterina device for the correction of functional body systems. RF patent No. 2230534, 2003.

6. Teterina T.P., Bolibok V.A. Ophthalmochromotherapy as a method immunocorrection. IVth international Congress: "Problems of laser Medicine". - M., 1997. P.361-362.

T.P. Teterina Innovative technologies for color correction of vision and immunodeficiency in patients with cataract // - M .: "IMEDIS", 2014, v.2 - P.158-164