Treatment of patients with oculomotor disorders methods of traditional medicine and physiotherapy

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Treatment of patients with oculomotor disorders by means of traditional medicine and physiotherapy

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SUMMARY

The pathology of the oculomotor apparatus and binocular vision is an important place in the structure of ophthalmic morbidity in children and adults. Functional changes are accompanied by cosmetic defects, disrupt the formation of the visual system in children and lead to impaired visual performance in adults. In this regard, it is relevant to search for new ways to treat this pathology.

The aim of the work was to summarize the data on the use of methods of traditional medicine and physiotherapy in the treatment of patients with oculomotor disorders.
Keywords: ophthalmology, traditional medicine, reflexology, bioresonance therapy, physiotherapy, oculomotor disorders, concomitant strabismus, paralytic strabismus.

RESUME

Pathology of the oculomotor system and binocular vision has a special place in the structure of ophthalmic morbidity patterns (children and adults). Functional changes are accompanied with cosmetic defects, disturb the formation of the children's visual system and lead to a lesion of the visual capability in adults. Therefore, the search for new ways of treating the disease is currently important.

The project mission is to integrate information about techniques of traditional medicine and physical therapy in the treatment of patients with oculomotor disorders.
keywords:ophthalmology, traditional medicine, reflexology, bioresonance therapy, physiotherapy, oculomotor disorders, concomitant strabismus, paralytic strabismus.

INTRODUCTION

Pathology of the oculomotor apparatus and binocular vision occupies an important place in the structure of ophthalmic morbidity in children and adults. Mono- and binocular functional changes are accompanied by cosmetic defects, disrupt the formation of the visual system in children and lead to impaired visual performance in adults. Changes in the binocular visual system in oculomotor pathology can affect both sensory (in friendly forms) and motor (in paralytic forms) components of the visual system [1].

The pathology of the oculomotor apparatus includes:

1. Heterophoria (hidden strabismus) in violation of binocular vision.
2. Concomitant strabismus.
3. Paralytic strabismus.
4. Ptosis.
5. Nystagmus.

In this article, we will consider the possibilities of physiotherapy and traditional methods of treatment in the treatment of concomitant and paralytic strabismus.

Strabismus is the deviation of one or both eyes from a common point of fixation. This disrupts the coordinated work of both eyes. Allocate explicit and latent strabismus. Pathology is considered only obvious strabismus, subdivided into paralytic and concomitant.

Latent strabismus or heterophoria can be determined by the installation movement and the Maddox method. Severe degrees of heterophoria can cause eye fatigue when working at close range, sometimes double vision. Heterophoria can be corrected by prescribing prismatic glasses for permanent wear, if the glasses do not help, surgical treatment is used, as with obvious strabismus.

Concomitant strabismus develops in childhood. Strabismus is not only a cosmetic defect that affects the psyche and character formation in children, but also a major functional deficiency. Due to the lack of binocular vision, the perception of the outside world is incomplete, the child is not able to correctly and quickly determine the spatial relationship of the objects surrounding him. As a result, there may be a lag in physical and mental development, and in the future - a great limitation in the choice of profession. The functional prognosis is especially unfavorable if strabismus occurred in the first years of life, when binocular vision was not yet sufficiently formed [2, 3].

The earliest theory of the development of concomitant strabismus was Graefe's muscular theory, which indicated that anatomical defects in the external muscles of the eye lead to its incorrect position. But the main thing in the treatment of strabismus is the restoration of binocular vision, and with surgical intervention on the muscles, spontaneous restoration of binocularity occurs only in rare cases, most often only a cosmetic effect is achieved.

In 1886 Donders proposed the accommodation theory. With farsightedness, due to increased accommodation tension and increased convergence, convergent strabismus develops, and with myopia, when there is no accommodation tension and there is no impulse to convergence, divergent strabismus develops. But this dependence is not always revealed.

For the occurrence of strabismus, anisometropia is important, i.e. different correction of one and the other eye, when images of different sizes cannot merge (aniseikonia). Any ametropia can lead to the development of a friendly strabismus. In the occurrence of strabismus, a significant role is played by low visual acuity of one eye, which occurs not only with anisometropia, but also with certain pathological conditions (corneal leukoma, cataract, vitreous opacity, pathology of the retina and optic nerve, etc.) of a congenital and acquired nature .

Modern researchers believe that strabismus is the result of a violation of the conditioned reflex coordination of eye movements, which most easily occurs during the formation of binocular vision, i.e. in early childhood. This pathology is based on various factors. Attempts to explain the pathogenesis of strabismus by any one factor are not confirmed in the clinic.

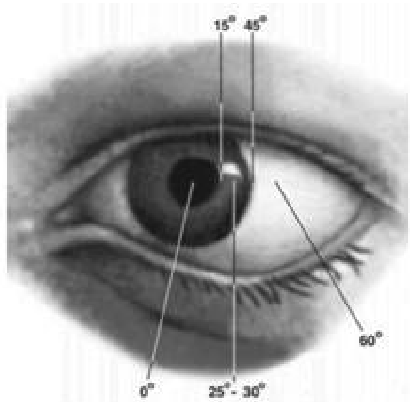
The main signs of concomitant strabismus are:

- maintaining the movement of the eyeballs in full;
- the angle of the primary deviation (squinting eye) is equal to the angle of the secondary deviation (fixing eye);
– absence of double vision, despite the fact that binocular vision is most often missing.

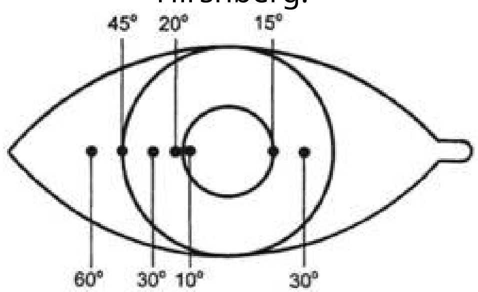
Concomitant strabismus can be periodic and permanent. It can be convergent and divergent, vertical and mixed (Fig. 1). In addition, there is unilateral (monolateral) and bilateral (alternating) strabismus.

Rice. 1. Types of strabismus according to the position of the eye.

The angle of strabismus is most often determined by the Hirschberg method. The doctor places the ophthalmoscope mirror to the lower edge of his orbit and observes light reflexes on both corneas of the patient, which is located opposite him at a distance of 30–35 cm. strabismus. If the reflex from an ophthalmoscope with an average pupil width is located along the edge of the pupil, then the angle of strabismus is 15°, in the center of the iris 25-30°, on the limbus - 45°, behind the limbus - 60° or more (Fig. 2, 3).



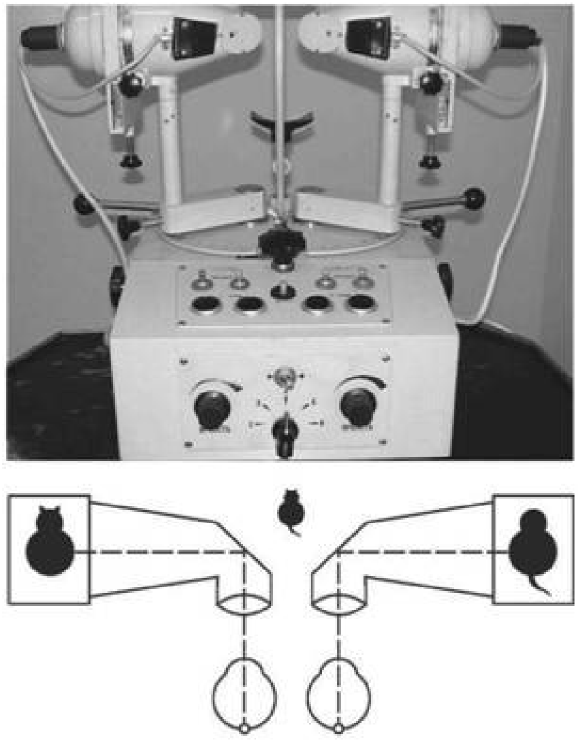
Rice. 2. The location of the light flare with different degrees of strabismus according to Hirshberg.



Rice. 3. Scheme for determining the various degrees of strabismus by location light flare according to Hirschberg

More precisely, the angle of strabismus, as well as the state of correspondence of the retinas, can be determined on the synoptophore (Fig. 4).

Heredity in pathogenesis strabismus more often appears how predisposition to the development of refractive errors, weakness of fusion and other disorders that contribute to the occurrence of strabismus [4].



Rice. 4. Synoptophore.

There are many classifications of concomitant strabismus. One of them is shown in Fig. 5. In practical work, for the diagnosis of strabismus and the development of treatment methods, a classification is more often used, according to which concomitant strabismus is divided into accommodative, partially accommodative and non-accommodative.

Содружественное косоглазие

Аккомодационное:	Частично-аккомодационное:	Неаккомодационное		
		Горизонтальное	Вертикальное	Смешанное
рефракционное: —сходящееся —расходящееся не рефракционное комбинированное декомпенсированное: —сходящееся —расходящееся	сходящееся расходящееся	основная форма: —сходящееся периодическое постоянное —расходящееся периодическое постоянное эссенциальное (врожденное) инфантильное: —сходящееся —расходящееся синдром блокированного нистагма сенсорное: —сходящееся —расходящееся микротропия (монофиксационный синдром): —эзомикротропия —экзомикротропия синдром слепого пятна (синдром, симптом Свана) эксцесс дивергенции острое косоглазие: —сходящееся —расходящееся циклическое вторичное (лечебный гиперэффект): —сходящееся —расходящееся	основная форма: —гипотропия —гипертропия дислоцированное вертикальное (DVD) расходящееся вертикальное	горизонтальное с вертикальным компонентом: —сходящееся —расходящееся вертикальное с горизонтальным компонентом: —гипотропия —гипертропия синдром Э. С. Аветисова «падающий» («тяжелый» глаз при высокой миопии

Rice. 5. Classification of concomitant strabismus.

Accommodative strabismus appears not earlier than at 2-3 years of age. It is associated with excessive tension of accommodation, as a rule, in hypermetropes, and disappears after drug paralysis of accommodation and subsequent constant wearing of glasses, does not require surgical treatment. With accommodative strabismus, binocular vision is often restored, and the power of the glasses gradually decreases.

Partially accommodative strabismus is reduced as a result of medical paralysis of accommodation and wearing glasses, but is not completely eliminated. Sometimes stubborn conservative treatment gives an effect, more often surgical and conservative treatment is combined.

Non-accommodative strabismus appears in the first or early second year of a child's life. It does not change under the influence of spectacle correction of ametropia and requires long-term combined treatment.

As a result of the prolonged existence of strabismus, various complications arise. The most common complication is amblyopia - a sharp decrease in the vision of the squinting eye without visible organic changes in the fundus. Amblyopia complicates strabismus in 60-65% of squinting children, much more often with monolateral strabismus, less often with divergent concomitant strabismus. Amblyopia, as a rule, is functional in nature, but the mechanism of its development is not well understood. Many believe that the higher parts of the central nervous system are involved in the occurrence of amblyopia. There is also a congenital form of amblyopia.

According to etiological and pathogenetic characteristics, several types of amblyopia are distinguished (according to E.S. Avetisov) [5]:

1. Hysterical.
2. Refractive - with refractive errors (hypermetropia and astigmatism).
3. Anisometropic (difference in eye refraction 5.0–6.0 diopters and higher).
4. Obscurative (from Latin obscuratio - darkening, clouding) - congenital or early acquired opacity of the optical media of the eye.
5. Dysbinocular - with disorders of binocular vision.
6. Congenital (visus 0.04 and below without fixation). The degree of amblyopia is determined by visual acuity (Fig. 6).

Degree of amblyopia	Visual acuity
weak	Not lower than 0.4
average	0.2-0.3
high	0.05-0.1
very high	below 0.04

Rice. 6. Degrees of amblyopia depending on visual acuity.

Visual fixation is a relatively fixed gaze fixation on the object in question. If the visual axis is directed to the object in question is the correct central fixation. With amblyopia, correct fixation is often replaced by incorrect fixation. According to the state of fixation, there are:

1. Amblyopia with correct central fixation.
2. Amblyopia with irregular (stable non-central, unstable non-central, intermittent central and non-central) fixation.
3. Amblyopia with no fixation. The nature of the fixation determines the tactics amblyopia treatment.

Another severe complication of strabismus is abnormal correspondence retina (AKC). It arises as a result of the formation of new reflex abnormal connections due to a change in the position of the eyeballs from early childhood. In this case, the correspondence does not occur between the yellow spots of both eyes, but between the yellow spot of the fixing eye and the periphery of the retina of the squinting eye.

ACS is an anomaly of binocular vision, and not a manifestation of its absence. ACS occurs more often in alternating strabismus, less often in unilateral strabismus. The occurrence of severe and difficult to treat ACS contributes to the early onset of strabismus.

Treatment of concomitant strabismus aims to create the correct position of the eyes and restore stable binocular vision.

The stability of the correct position of the eyeballs can only be ensured when normal visual functions are restored. The chances of success are less likely if the strabismus appeared very early.

Usually complex is carried out - pleopto-ortho-surgical treatment. Paralytic

strabismus is observed with weakness of the muscular apparatus of the eyeball, which may be due to trauma, tumor, neuroinfections.

Clinically, paralytic strabismus is manifested by the limitation of the absence **of** movements of the squinting eye towards the affected muscle, while there is a feeling of doubling of objects. With a long-term strabismus, a decrease in vision (up to blindness) of the squinting eye is possible.

Treatment of paralytic strabismus includes the elimination of the cause that caused paresis of the oculomotor muscle, and local effects (physiotherapy). Prismatic glasses are used to correct double vision. Surgical treatment consists in strengthening the affected muscles and is used when conservative therapy is ineffective [6].

MATERIALS AND METHODS

As part of pleoptic treatment aimed at improving visual acuity, our department widely uses magneto- and electrophoresis, transcutaneous electrical stimulation of the optic nerve, color pulse therapy, bioresonance therapy, acupuncture and manual therapy in combination with segmental and acupressure. As a rule, complex treatment is used.

Magnetotherapy and magnetophoresis of drugs that improve blood flow and metabolic processes in the tissues of the eye, ensure the normalization of hemo- and neurodynamics, as well as an increase in the adaptive reserves of the endocrine and immune systems. Magnetophoresis is carried out on the Polus-3 apparatus with an exposure intensity of 10 mT and an exposure of 10 minutes. The course of treatment consists of 10 sessions carried out daily. Before and after the procedure, we most often use the instillation of Taurine 4%, Nicergolin 8%, Prozerin 0.05%, Riboflavin mononucleotide 1%.

To improve the nutrition of the retina and optic nerve, we use endonasal electrophoresis, which delivers medicinal substances directly to the posterior pole of the eye. We widely use riboflavin mononucleotide 1%, semax 0.1%, no-shpu 2%, prozerin 0.05%, retinalamine 0.25%, cortexin 0.1%. Electrophoresis is carried out on the domestic Potok-1 galvanizer with a current of up to 1 mA. The duration of the procedure varies from 10 to 15 minutes, depending on the tolerance of the patient. The course consists of 10 sessions held daily. The polarity is set in accordance with the developed tables. The advantage of treatment with endonasal electrophoresis is the absence of pain and allergic reactions, non-invasiveness, no formation of cicatricial changes in the conjunctiva and parabulbar tissue, as in cases of subconjunctival and parabulbar injections.

In amblyopia, we widely use the method of indirect or transcutaneous electrical stimulation (TES) of the optic nerve, proposed by E.B. Kompaneits et al. in 1989. The method is based on the possibility of conducting electrical stimuli of certain parameters through conductive tissues (eyelids, eyeball with all its membranes) to the retina and optic nerve. BSES is carried out using the device "Electrostimulator ophthalmic two-channel ESO-2" according to the standard method. During the first course, the number of sessions varies from 7 to 10. Subsequent treatment is carried out no earlier than 6 months after the first course, and no more than 5 sessions are prescribed. The BSES method has significant advantages over direct electrical stimulation methods. It is atraumatic, easy to conduct repeated courses on an outpatient basis, has, in connection with this, wider indications for use in different age groups. Electrical stimulation contributes to the restoration of the functions of generation and conduction of nerve impulses due to the polarization of membranes, the improvement of metabolic and energy processes in the nervous tissue by enhancing the breakdown and renewal of membrane phospholipids, and the intensification of transport and metabolic processes in axons, glial and connective tissue elements. As was shown in the experiment, during electrical stimulation of the optic nerve, an increase in intercellular potassium and a decrease in the concentration of membrane calcium occur, which contributes to an increase in ion fluxes in the visual pathway and the quantitative growth of glial cells. improvement of metabolic and energy processes in the nervous tissue due to increased breakdown and renewal of membrane phospholipids, intensification of transport and metabolic processes in axons, glial and connective tissue elements. As was shown in the experiment, during electrical stimulation of the optic nerve, an increase in intercellular potassium and a decrease in the concentration of membrane calcium occur, which contributes to an increase in ion fluxes in the visual pathway and the quantitative growth of glial cells. improvement of metabolic and energy processes in the nervous tissue due to increased breakdown and renewal of membrane phospholipids, intensification of transport and metabolic processes in axons, glial and connective tissue elements. As was shown in the experiment, during electrical stimulation of the optic nerve, an increase in intercellular potassium and a decrease in the concentration of membrane calcium occur, which contributes to an increase in ion fluxes in the visual pathway and the quantitative growth of glial cells.

It is advisable at the first stage to carry out magneto- and (or) electrophoresis with trophic and neuroprotective drugs, and then transcutaneous electrical stimulation. As a rule, we do not perform two electroprocedures on the same day.

Local, segmental and generalized reaction in response to stimulation of acupuncture points and reflexogenic zones with the help of acupuncture, acupressure and segmental massage allow them to be used both to improve visual acuity and restore oculomotor functions. The release of biologically active compounds belonging to the type of neurotransmitters and neuromodulators, which occurs when exposed to acupuncture points, improves the transmission of nerve impulses and the processing of incoming information, allows fine and differentiated regulation of neuronal excitability.

Proper selection of acupuncture points and methods of influencing them makes it possible to purposefully influence neurochemical processes in certain brain centers and cause desired changes in regulated functions [7–10].

Acupressure is closest to acupuncture, because. the impact is carried out pointwise on the skin projection of AT with different intensity and duration.

Segmental massage is carried out according to the principles of general massage in the individual, most important segments of the body, taking into account the segmental structure of the body. The emphasis is on the most important reflexogenic zones in ophthalmology, innervated by the first and second branches of the trigeminal nerve, the so-called "collar" zone (according to L.E. Shcherbak), which is the most accessible for influencing the cervical sympathetic center of innervation of the soft tissues of the face and head. The impact is carried out on large reflex zones of the skin, as well as the underlying muscles with moderate intensity [11-13].

In recent decades, bioresonance therapy (BRT) and multiresonance therapy with fixed frequencies have been successfully used to stimulate visual functions in patients with amblyopia. This therapy helps to activate the functions of nerve fibers and neurons of the visual analyzer, which are in a state of parabiosis, which does not allow to respond to drug treatment and other types of exposure. This method has an immunomodulatory, trophic effect, improves the state of the body's adaptive reserves, and increases blood flow [14-18].

BRT is performed on an outpatient basis 2-3 times a week on the device for adaptive bioresonance therapy "IMEDIS-BRT-A". Therapy with specific frequencies is carried out on the device for exogenous bioresonance therapy "MINI-EXPERT-T" or "MINI-EXPERT-DT". The course of treatment consists of 10 procedures. The duration of the session varies, depending on the program, from 20 to 40 minutes.

For multi-resonance therapy are used frequencies spontaneous bioelectrical activity of organs and tissues from the databases of R. Voll, P. Schmidt, R. Reif, affecting the organ of vision. For the treatment of amblyopia, frequencies are used: 3.8 Hz; 3.9 Hz; 70 Hz; 70.5 Hz; 79.5 Hz; 93.5 Hz; 94.5 Hz; 95 Hz.

In order to restore oculomotor functions and form binocular vision, we also use magnetophoresis, as a rule, with a 0.05% prozerin solution, followed by eye exercises and (or) exercises on the synoptophore.

We often perform acupuncture and bioresonance therapy. When conducting multiresonance therapy, the following frequencies are used: 20 Hz; 88.5 Hz; 727 Hz; 787 Hz; 880 Hz; 1600 Hz; 10000 Hz.

We present an analysis of the results of treatment of 150 patients with concomitant and paralytic strabismus using bioresonance therapy and acupuncture. The age of the patients ranged from 6 to 65 years. The distribution of patients by type of oculomotor disorders is presented in Table 1.

Thus, 20 out of 150 (13.3%) patients had decompensated heterophoria with unstable binocular vision; 94 (62.7%) had concomitant strabismus with different angles of deviation in combination with refractive errors, while 38 of them had different degrees of amblyopia in one (23 people) and both (15 people) eyes; in 36 (24%) patients - paralytic strabismus (in 10 - congenital, in 26 - acquired). Acquired paralytic strabismus was caused by traumatic brain injury in 10 patients (11 eyes), complications after neurosurgical interventions for brain tumors in 7 patients (8 eyes), strokes in 6 patients (6 eyes), and multiple sclerosis in 3 patients (5 eyes). It should be noted,

Table 1

Distribution of patients by type of oculomotor disorders

Type of oculomotor disorders		Quantity patients
Decompensated heterophoria		twenty
Concomitant strabismus	with a small deflection angle	56
	high angle deviations	38
Paralytic strabismus	congenital	10
	acquired	26
Total Patients		150

The treatment was complex, carried out on an outpatient basis, daily or every other day. Initially, adaptive bioresonance therapy was carried out on the apparatus "IMEDIS-BRT-A" and exogenous bioresonance therapy with fixed frequencies using the frequencies of spontaneous bioelectrical activity of organs and tissues taken from the works of R. Voll, P. Schmidt, R. Reif and affecting the visual analyzer, as well as various parts of the oculomotor apparatus, the thalamus and other brain structures. The list of frequencies is given above. Then - a session of acupuncture using paraorbital, auricular and corporal points according to a stimulating technique and an individual prescription. The duration of the course was determined by the dynamics of the process. On average, the course consisted of 8–10 procedures.

To assess the effectiveness of treatment, primary and dynamic examinations were performed, including visometry with correction, refractometry, computerized perimetry, examination of the state of binocular vision on a color device, and the study of the degree of deviation according to Hirshberg. In addition, according to the indications, patients underwent electropuncture diagnostics (EPD) according to the method of R. Voll or a vegetative resonance test.

RESULTS AND ITS DISCUSSION

In the treatment of 150 patients with oculomotor disorders using bioresonance therapy and acupuncture, a positive result was obtained in 119 people, i.e. the average efficiency was 79.3%. The following results were obtained for each group of patients.

In all 20 patients with decompensated heterophoria, according to the color test, restoration of stable binocular vision was observed.

In 46 (83%) patients with concomitant strabismus at small angles of deviation (up to 5–7° according to Hirschberg), the restoration of the correct position of the eyes and the development of stable binocular vision were noted. In concomitant strabismus with large deviation angles (more than 10° according to Hirschberg), 30 patients (80%) showed a decrease in the deviation by 5–10°, depending on the magnitude of the initial deviation.

In 42 (79.2%) of 53 amblyopic eyes, an increase in visual acuity was observed. There was a characteristic dependence on the initial degree of amblyopia: the higher the initial visual acuity, the higher its rise after treatment (Table 2).

table 2

Dynamics of visual acuity after treatment at various degrees amblyopia

Degree of amblyopia	Number of eyes N=53	Average visual acuity (M ± m)	
		Before treatment	After treatment
Weak degree	thirteen	0.65 ± 0.15	0.85 ± 0.1*
Intermediate degree	17	0.25±0.5	0.35 ± 0.1*
high degree	thirteen	0.075 ± 0.005	0.1 ± 0.005*
Very high degree	10	0.03±0.005	0.035 ± 0.005*

Note: * - significance of differences before and after treatment, (P < 0.05).

Unpromising was the treatment of patients with congenital paralytic strabismus. Only 3 of them had a slight positive trend, the remaining 7 people did not recover their mobility.

Complete recovery of oculomotor functions was observed in 9 (34.6%), partial - in 14 (53.8%) people with acquired paralytic strabismus. In addition, significant positive dynamics occurred in the neurological status of patients.

As a result of the therapy, there was a decrease in asthenopic and general somatic complaints, an increase in visual performance, in all cases there was a positive trend according to the EPD.

CONCLUSIONS

Thus, for the treatment of patients with oculomotor disorders, namely, concomitant and paralytic strabismus, methods of physiotherapy and traditional medicine can be successfully applied. The complex use of the above methods makes it possible to restore stable binocular vision in 100% of cases with decompensated heterophoria and in 83% of cases with concomitant strabismus with small deviation angles. With concomitant strabismus with large deviation angles, in 80% of cases it is possible to reduce the deviation by 5-10°. Recovery of oculomotor functions and reduction of the angle of strabismus was obtained in more than 88% of patients with acquired paralytic strabismus.

This treatment improves visual acuity in 79% of amblyopic eyes, and the lower the initial degree of amblyopia, the better the functional prognosis.

It should be noted a significant reduction in the rehabilitation period and an improvement in the neurological status in patients after brain surgery, neuroinfections, traumatic brain injuries, and strokes.

The introduction of the method into ophthalmological practice makes it possible to increase the effectiveness of the treatment of patients with concomitant and acquired paralytic strabismus due to a systemic effect on the pathogenesis of existing oculomotor disorders, including both sensory and motor components of the visual system. In addition, this treatment affects the central mechanisms of regulation of the coordinated activity of the sensory and motor mechanisms of the two monocular visual systems, contributing to the formation of binocular vision.

LITERATURE

1. Kashchenko T.P. Problems of oculomotor and binocular pathology. - Bulletin of ophthalmology. -2006. - N1. - C.32-35.

2. Shilnikov L.V. Pathology of the oculomotor apparatus (strabismus). -

Abstract of lectures on ophthalmology. - electronic source https://bookmate. com/ books/vGXwkfn8.

3. Abramov VT. The main eye diseases in childhood and their clinical peculiarities. - M. -1993. - S.257-312.

4. Fedorov S.N., Yartseva N.S., Ismankulov A.O. Pathology of the oculomotor device. "Eye diseases". Textbook for medical students. 2nd ed., revised. and additional - M., 2005. - 440 p.

5. Avetisov E.S. Dysbinocular amblyopia and its treatment - M .: Medicine, 1968. - 208 p.

6. Bazarbaeva A.R., Kashchenko T.P. Diplomatic treatments concomitant strabismus // Bulletin of Ophthalmology. - 2015. - N6. - P.95-98.

7. Agasarov L.G. Guide to reflexology. - M.: Medicine, 2001. - 303 p.

8. Vasilenko AM Basic principles of the adaptogenic action of reflexology // Results of science and technology. - 1985. - T. 29. - S.167-203.

9. Durinyan R.A., Reshetnyak V.K., Zaraiskaya S.M. Neurophysiological mechanisms acupuncture // GRM. - 1981. - Section IX. - No. 5. - P.13-20.

10. Ovechkin AM "Clinical acupuncture in ophthalmology". - Yoshkar-Ola, 1994. - 213 p.

11. Vasichkin V.I. Segmental massage. - St. Petersburg: Lana, 1995. - 160 p.

12. Ivanichev G.A. Manual therapy. - M.: LLC "Medpress", 1998. - 470 p.

13. Levit K., Zahse J., Yanda V. Manual medicine. - M.: Medicine, 1993. - 512 With.

14. Bioresonance therapy: Guidelines / Meizerov E.E. and etc. - M.: Nauch.-prakt. traditional medical center and Homeopathy of the Ministry of Health of the Russian Federation, 2000. - 27 p.

15. Gotovsky M.Yu., Perov Yu.F., Chernetsova L.V. bioresonance therapy. - IMEDIS, 2008. - 174 p.

16. Samokhin A.V., Gotovsky Yu.V. Electropuncture diagnostics and therapy according to R. Voll's method. - M.: IMEDIS, 1995. - S. 11, 359-367.

17. Tarakanovskiy A.V. The results of the application of bioresonance and multiresonance therapy in ophthalmology // Abstracts and reports. VI International Conference “Theoretical and Clinical Aspects of Bioresonance and Multiresonance Therapy. Part I. - M.: IMEDIS, 2003. - S. 347.

18. Morell F. "Die Mora-Therapie". - Friesenheim Med-Tronic. - 1978. - 50 P.

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