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## Modern methods of treatment of patients with high-grade myopia

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**Annation.** This review article examines modern views on etiological factors, the pathogenesis of complications and the influence of climatogeographic conditions on the progression of myopia and modern methods of treatment.

**Key words:** Myopia, OCT, PZO, DZN.

## Современные методы лечения больных с миопией высокой степени

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**Аннотация.** В данной обзорной статье рассматриваются современные взгляды на этиологические факторы, патогенез осложнений и влияние климатогеографических условий на прогрессирование миопии и современные методы лечения.

**Ключевые слова:** Близорукость, ОКТ, ПЗО, ДЗН.

## Юқори даражали миопияси бўлган беморларни даволашнинг замонавий усуллари

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**Аннотация.** Ушбу мақолада этиологик омиллар, асоратларнинг патогенези ва климатогеографик шароитларнинг миопия ва даволашнинг замонавий усулларига таъсири ҳақида замонавий қарашлар кўриб чиқилади.

**Калит сўзлар:** Миопия, ОКТ, ПЗО, ООЎ.

Myopia (myopia) is an anomaly of the refractive power of the eye (refraction), characterized by focusing the image of objects not on the retina of the eye but in front of it. Person does not distinguish distant objects well with myopia but sees

well up close: there are visual fatigue, headache, impaired vision at twilight, progressive deterioration of visual acuity. Diagnosis of myopia includes visometry, skiascopy, refractometry, ophthalmoscopy, biomicroscopy, ultrasound of the eye. Myopia of the general population is quite common: according to WHO 25-30% of the world's population suffers from myopia. Most often, myopia develop in childhood or puberty (from 7 to 15 years) and in the future either persists at the existing level or progresses. With myopia, light rays emanating from distant objects gather into focus not only the retina, as in a normal eye, but also in front of it, as a result of which the image turns out to be fuzzy, blurry, blurred. Today, myopia is a fairly common disease, since the percentage of nearsighted schoolchildren is at least 40%. During the student years, this indicator increases reaching 70%. Over the past 30 years, the incidence of myopia has increased by 1.7 times (from 25 to 45%). In countries, such as the USA (41.6%) and Asian countries (Taiwan 90%, Singapore 79.3%, China 95.5% among students). This problem occupies more minds. Myopia as a condition is characterized not only by a decrease in visual acuity, this is perhaps the most harmless, but also by retinal pathologies. Which develop due to an increase in the size of the eye and as a result - excessive tension of the mesh layer. A method of treating high-grade myopia has long been known, which medicinal substances are injected into the parabolbar. However, this method has a number of significant drawbacks: long treatment periods, the danger of the injection needle technique, damage to the eye tissues and a long time of absorption of the medicinal substance from the parabolbar. Correction and treatment of myopia can be carried out by conservative (drug therapy, eyeglass or contact correction), surgical or laser methods. Medication courses conducted 1-2 times a year can prevent the progression of myopia. It is recommended to observe visual hygiene, limit physical activity, take vitamins of group B and C, use mydriatics to relieve spasm of accommodation (trapticamide), tissue therapy (aloe, vitreous intramuscularly), taking nootropic drugs (piracetam,), physiotherapy, massage of the cervical-collar zone, orthoptic techniques are used: training of the ciliary muscle using negative lenses, hardware treatment. To correct myopia, contact lenses or glasses, with scattering (-) lenses are selected. To date, ophthalmology has developed more than twenty methods of refractive and laser surgery for the treatment of myopia. Excimer laser correction of myopia involves correcting vision by changing the shape of the cornea, giving it a normal refractive power. Laser correction of myopia is performed with myopia up

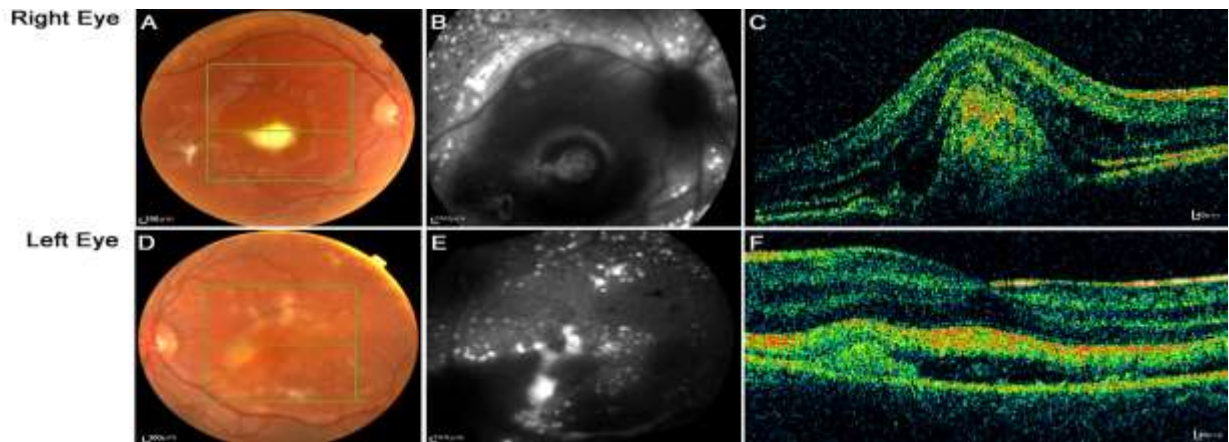
to -12-15 dptr and is performed on an outpatient basis. Among the methods of laser surgery for myopia, LASIK, SUPER, EPILASIK, FEMTO LASEK, photorefractive keratectomy (PRK) have become the most widespread. These methods are differ in the degree of exposure and the way the corneal surface is formed, however, they are essentially identical. Complications of laser treatment of myopia can be hypo- or hypercorrection, the development of corneal astigmatism, keratitis, conjunctivitis. dry eye syndrome. Refractive lens replacement (lensectomy) is resorted to with high degree of myopia (up to -20 dpt) and loss of natural accommodation of the eye. The method consists in removing the lens and placing an intraocular lens (artificial lens) inside the eye that has the necessary optical power.

**The purpose of the work:** To study the effectiveness of Retinalamine with parabolbar, cortexin 1.0 intramuscular use, tissue therapy (aloe, vitreous intramuscularly), taking nootropic drugs (piracetam,), physiotherapy, massage of the cervical-collar zone, orthoptic techniques are used: training of the ciliary muscle using negative lenses, hardware treatment and lymphotropic regional therapy in patients with high-grade myopia with fundus changes.

**Materials and methods:** Retinalamine with parabolbar, cortexin 1.0 intramuscularly, tissue therapy (aloe, vitreous intramuscularly), nootropic drugs (piracetam,), physiotherapy, massage of the cervical-collar zone, orthoptic techniques are used: training of the ciliary muscle using negative lenses, hardware treatment and lymphotropic regional therapy were used in the treatment of 26 patients (52 eyes) with high-grade myopia with fundus changes: myopia from 5.0 D to 7.0 D – 7 patients (14 eyes), myopia from 7.0 D to 10.0 D – 12 patients (24 eyes), myopia from 10.0 D to 15.0 D - 9 patients (18 eyes). All patients had high sciascopic refraction, decreased visual acuity, dystrophic changes and thinning of the fundus.

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**Results and discussion:** After complex treatment in patients with myopia from 5.0 D to 7.0 D, there was an increase in visual acuity by 0.2-0.3, myopia from 7.0 D to 10.0 D visual acuity by 0.1-0.2, the stability of the ocular PZO is noted. After Retinalamine with parabolbar, cortexin 1.0 intramuscular, tissue therapy (aloe, vitreous intramuscularly), taking nootropic drugs (piracetam), physiotherapy, massage of the cervical-collar zone, orthoptic techniques are used: training of the ciliary muscle using negative lenses, hardware treatment and lymphotropic regional therapy of treatment, patients are prescribed pills that improve microcirculation of the retina.

**Conclusion.** The positive effect of the lymphotropic treatment method on visual functions in patients with high-grade myopia with fundus changes has been clinically confirmed. With regular courses of treatment (2 courses per year), stable visual acuity and refraction of patients is observed in 94.1% of cases, increased visual acuity is observed in 58.1% of cases, the stability of PZO is 61.4% of cases, the stability of DZ is observed in 61.3% of cases. The use of lymphotropic therapy makes it possible to improve trophism and microcirculation in the vessels of the optic nerve, reduces the severity of pathological reactions caused by an etiological factor, the therapeutic concentration of the medicinal substance is rapidly achieved, the trauma risk of manipulation decreases, the volumes and concentrations of injected substances decrease.

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