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ЎСМИРЛАРДА РИВОЖЛАНИБ БОРУВЧИ МИОПИЯДА СКЛЕРОМАЛЬЯЦИЯ БЎЛГАН КЎЗ ОЛМАСИНИНГ СКЛЕРАСИНИН МОРФОМЕТРИК ХУСУСИЯТЛАРИ

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Аннотация: Ушбу мақолада ривожланиб борувчи миопияда кўз олмаси склерасида склеромальяцияни морфологик холатини текшириш натижалари, экспериментал ксенотрансплантант киритилгандан сўнгги қўшувчи тўқималарининг, яъни склера реакциясининг морфологик хусусиятларини қиёсий баҳолаш эди.

Калит сўзлар: Миопия, эксперимент, ксенотрансплантант, ООЎ.

МОРФОМЕТРИЧЕСКИЕ ОСОБЕННОСТИ СКЛЕРЫ ГЛАЗНОГО ЯБЛОКА СО СКЛЕРОМАЛЯЦИЕЙ ПРИ РАЗВИВАЮЩЕЙСЯ БЛИЗОРУКОСТИ У ПОДРОСТКОВ

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Аннотация: В этой статье результаты исследования морфологического статуса склеромаляции в склере глазного яблока при развивающейся миопии представляли собой сравнительную оценку морфологических характеристик соединительной ткани, то есть реакции склеры, последней после введения экспериментального ксенотрансплантата.

Ключевые слова: Близорукость, эксперимент, ксенотрансплантат, ООО.

MORPHOMETRIC FEATURES OF THE SCLERA OF THE EYEBALL WITH SCLEROMALACIA IN DEVELOPING MYOPIA IN ADOLESCENTS

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Annotation: In this article, the results of the study of the morphological status of scleromalacia in the sclera of the eyeball in developing myopia were a comparative assessment of the morphological characteristics of connective tissue, that is, the reaction of the sclera, the latter after the introduction of an experimental xenograft.

Key words: Myopia, experiment, xenograft, LLC.

The incidence of myopia in different regions of the Republic of Uzbekistan in the composition of the disease of the organs of the body is from 20 to 60.7% gacha. It is known that among the blind in adolescents, 22% of young people with high levels of complex myopia are the main cause of disability.

High levels of myopia, both in our country and abroad, are often combined with the development of Thoracic and corneal nerve disease, collogenous diseases and their complication scleromalacia in adolescents and "older adults", thereby complicating the diagnosis of the pathological process. The medical and social significance of the problem is exacerbated by the fact that developing myopia affects people of the most working age. The development of myopia

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in adolescents can lead to serious irreversible eye changes, various complications and significant loss of vision. According to the results of the medical examination in Uzbekistan, over the past 1.5 years, the incidence of adolescents with myopia has increased 10 times. Among adults with visual impairment due to developing myopia and its complication, 46% have congenital myopia, the rest have been acquired, including during school years. The results of complex epidemiological and clinical genetic studies have shown that myopia is a multifactorial disease. Understanding the pathogenetic and morphological mechanisms of visual impairment in myopia remains one of the pressing issues of Ophthalmology. The morphological features of sclera play a role in myopia. It is they that are especially important in the pathogenesis of stretching of the eyeball. Dystrophic and structural changes occur in the sclera of people who cannot see far. The expansion and deformation of the sclera of the adult eye with developing myopia has been found to be significantly greater than that of emmetropia, especially in the area of the anterior and lrqa axes. The increase in eye length in myopia is now a result of metabolic disorders in the sclera, as well as changes in regional hemodynamics. Changes in the elastic properties of the sclera and the length of the anterior-posterior axis (OOO') have long been of interest to scientists. The evolution of the study of the anatomical parameters of the eyeball is reflected in the works of many authors. E. J. According to Tron, the length of the emmetropic ocular axis varies from 22.42 to 27.30 mm. As for the variability of the length of Ooo with myopia from 0.5 to 22.0 D, E. J. TRON provides the following information: - myopia with OOO length 0.5 d-6.0 d - 22.19 mm to 28.11 mm;

-from 6.0 d - 22.0 d with myopia to 28.11 mm 38.18 mm.

E. S. According to Avetisov, the OOO length of the eye with emmetropia is 23.68;

-0.5-3.0 d -24.77 mm with myopia;

-3.5-6.0 d -26.27 mm with myopia;

-6.5-10.0 d -28.55 mm with myopia.

Very specific parameters of emmetropic eyes are given in the National Manual of Ophthalmology: the OOO length of the emmetropic eye averages 23.92-1.62 mm. In 2007, I.A. Remesnikov created a new anatomical-optical and matching truncated optical circuit of the emmetropic eye with a 0.0 D clinical refraction and a 23.1 mm OOO.

As mentioned above, in the developing myopia, there is stretching in the sclera, dystrophic changes in the retina, which is most likely a violation of blood flow in the choroidal and peripapillarar arteries, as well as its mechanical stretching.

In adolescents with high levels of myopia, the average thickness of the retina and choroid in the subfovea has been shown to be less than in emmetrops. Thus, the longer the length of the OOO, the higher the "growth" of the membranes of the eyeball, and the lower the density of the tissues: sclera, choroid, mesh curtain.

As a result of these changes, the number of tissue cells and cellular substances is also reduced: for example, the pigment epithelial layer of the mesh curtain is thinned, the concentration of active compounds in the macular region, possibly carotenoids, is reduced. It is known that the general concentration of carotenoids: lutein, zeaxanthin and mesoseaxanthin in the central part of the retina are the optical density (MPOZ) of the macular pigment. Macular pigments (MP) absorb the blue part of the spectrum and provide strong antioxidant protection against free

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radicals, lipid peroxidation. According to a number of authors, a decrease in the MPOZ index is associated with a risk of developing maculopathies and a decrease in central vision.

In addition, many authors agree that with age there is a decrease in MPOZ. The study of MPOZ levels in healthy populations in patients of different ages and patients of different ethnic groups in many countries of the world constitutes a very controversial case.

Unfortunately, in Central Asia and the Republic of Uzbekistan, large-scale studies have not been carried out on the MPOZ index in patients with healthy populace, refractive errors, pathological changes in the macular zone and other ophthalmic diseases. This question is still open and very interesting. The only study of Mpoz in a healthy population was in 2013 by E. N. Began in eskina and others. This study involved 66 healthy volunteers between the ages of 20 and 75. In age groups, the average index of MPOZ varied from 0.30 to 0.33, and the correlation coefficient showed that there was no correlation between MPOZ value and age in normal age-related processes in the visual organ.

At the same time, the result of a clinical study by foreign authors was that in healthy volunteers, MPOZ values were measured using heterochromatic blinking photometry and optical congeret tomography (Oct). The central lattice confirms a positive correlation with curtain thickness (R=0.30). Therefore, in our opinion, the study of Mpoz is of particular interest not only in healthy populations of patients of different ages and patients of different ethnic groups, but also in dystrophic ophthalmopathies and refractive errors, in particular myopia. In addition, ooo length visualization remains curious about the topographic-anatomical and functional parameters of the analyzer (in particular, the fact of its effect on MPOZ, thickness of the retina, choroid, etc.). The relevance of the above fundamental issues determined the purpose and objectives of this study.

Purpose: morphometric properties of the eyeball and their effect on visual functions of developing myopia in adolescents,

evaluation of the morphofunctional parameters of the visual analyzer in the development of the anterior and posterior axis (OOO) length of the eye and scleromalacia.

Materials and methods: the study involved 36 adolescent patients (71 eyes). All patients in the study were divided into 4 groups according to the size of the anterior and posterior axis of the eyeball (OOO).

-The first group consisted of adolescents with mild myopia and patients with an OOO value of 23.81 to 25.0 mm;

- The second is the average myopia adolescents and the OOO value ranges from 25.01 to 28.5 mm;

- The third is high myopia adolescents, the OOO value is higher than 29.0 mm;

- Fourth-adolescents with refraction are close to emmetropiaca and OOO value ranges from 22.2 to 23.8 mm. By default, adolescents, in addition to ophthalmological examination, passed the following complex of diagnostic measures: exobiometry, a-scanning, digital imaging of the fundus, anterior and posterior optical coherent tomography.

Results: the average age of patients was from 16.0 to -45.0 years. In statistical processing of the results of the studied indicators, a decrease in some of them is noted as the OOO lengthens:

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maximum corrected visual acuity (p=0.01), sensitivity in the fovea (P = 0.008), average mesh curtain thickness in the fovea (p=0.01), nasal and temporal sectors (P=0.005; p=0.03). In addition, a significant statistically significant inverse correlation was found between OOO -0.4 in all groups of subjects; as well as the thickness of the retina at fovea -0.6; the thickness of the choroid at fovea -0.5 and sensitivity at fovea -0.6; (p < 0.05).

Conclusion:

A detailed analysis of the obtained mean values of the studied parameters revealed a general downward trend of morphofunctional parameters of the eyeball with an increase in Ooo in groups. The correlation data obtained from the clinical trial conducted shows a close relationship between the morphometric and functional parameters of the imaging analyzer

Bibliography

1. Avetisov E.S. Blizorukost. M.: Media, 1999. S. 59. [Avetisov E.S. Myopia. M.: Medicine, 1999. P. 59 (In Russian)].

2. Akopyan A.I. I Dr. Osobennosti diska zritelnogo Nerva PRI glaucome I miopii / / glaucoma. 2005. № 4. S. 57–62. [Akopyan A.I. Features of the optic disc in glaucoma and myopia // Glaucoma. 2005. № 4. P. 57-62 (In Russian)].

3. Dal N.Yu. Maculearnie carotenoid. Mogut Li Oni zatshitit Nas OT vozrastnoy makulyarnoy degenerasii? // Ophthalmologicheskie Vedomosti. 2008. № 3. S. 51–53. [Dal NY. Macular carotenoids. Can they protect us from age-related macular degeneration? // Ophthalmologicheskie vedomosti. 2008. № 3. P. 51-53 (In Russian)].

4. Eroshevsky T.I., Bochkareva A.A. Glaznie bolezni. M.: Media, 1989. S. 414. [Eroshevsky T.I., Bochkareva A.A. Eye diseases. M.: Medicine, 1980. P. 414

