

ETIOLOGY, PATHOGENESIS, PROPHYLAXIS, TREATMENT METHODS OF MYOPIA AND CATARACT DISEASE, ROLE OF VITAMINS CONTAINED IN THEM AND LEVELS OF EFFECT

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ABSTRACT

One of the most urgent problems today is myopia. This disease is rapidly spreading today, sparing both the old and the young. What is myopia? Is it high blood pressure or one of the diseases that cause severe pain in the abdomen? Can this disease be cured? If the disease can be treated, how long it will take and how much money will be spent. In Uzbek dialect, myopia is short-sightedness. We will now find answers to the above questions about how to prevent myopia in this article!

Keywords: Myopia, Cataract, Types, Etiology, Pathogenesis, Prevention, Levels, Symptoms, Predisposing factors, Vitamins.

INTRODUCTION

Myopia, also known as nearsightedness and farsightedness, is an eye disease in which light is focused on the front instead of the retina. As a result, distant objects appear blurry, while close objects appear normal. Other symptoms may include headaches and eye strain. Severe nearsightedness is associated with an increased risk of retinal detachment, cataracts, and glaucoma.

The main mechanism involves a very long increase in the length of the eyeball or, less often, a very strong lens. This is a type of refractive error. Diagnosis is made by eye examination.

Nearsightedness is the most common eye problem and is estimated to affect 1.5 billion people (22% of the world's population). Rates vary significantly in different regions of the world. Among adults, rates range from 15% to 49%. Among children, it affects 1% of rural Nepalese, 4% of South Africans, 12% in the US, and 37% in some large cities in China. Uncorrected nearsightedness is one of the most common causes of vision impairment worldwide, along with cataracts, macular degeneration, and vitamin A deficiency.

Different forms of myopia are characterized by their clinical appearance:

- ✓ Normal Myopia: Myopia in the normal eye is usually less than 4.00 to 6.00 diopters. This is the most common form of myopia.
- ✓ Bad, pathological or progressive myopia: Also called degenerative myopia, it is characterized by significant fundus changes such as posterior staphyloma and is associated

with high refractive error and subnormal visual acuity after correction. This form of myopia gets worse over time. Degenerative myopia is noted as one of the main causes of visual impairment.

- ✓ Pseudomyopia is a blurring of distance vision caused by spasm of the accommodation system.
- ✓ Night myopia: When there is not enough stimulus for proper accommodation, the accommodation system is partially activated and takes distant objects out of focus.
- ✓ Transient near work-related myopia: A short-term myopic far point shift immediately after performing a continuous near vision task. Some authors argue about the relationship between NITM and the development of permanent myopia.
- ✓ Instrument Myopia: Excessive fixation when looking at an instrument such as a microscope.
- ✓ Acquired myopia, also known as acquired myopia, is caused by various medications, elevated glucose levels, nuclear sclerosis, oxygen toxicity (such as diving or oxygen and hyperbaric therapy), or other abnormalities. Sulfonamide therapy can cause swelling of the ciliary body, resulting in anterior displacement of the lens, which can cause the eye to be out of focus. Elevated blood glucose levels, as well as accumulation of sorbitol in the lens, can cause swelling of the crystalline lens. This swelling often causes temporary myopia. Scleral clamps used in retinal detachment repair can increase the axial length of the eye and cause myopia.
- ✓ Index myopia: associated with changes in the refractive index of one or more of the ocular media. Cataracts can cause index myopia.
- ✓ Myopic vision, which is deprived of form, occurs when there is limited light and range of vision, or when the eye is replaced with an artificial lens, or when it is deprived of clear vision. In lower vertebrates, this type of myopia appears to be reversible in a short time. Myopia is often induced in this way in various animal models to study the pathogenesis and mechanism of myopia development.

Nearsightedness, myopia - vision defect; in this case, near objects appear fine, and distant objects appear dim.

Etiology: During pregnancy, the mother suffers from various infectious diseases (influenza, etc.), anemia; getting used to reading while lying down, reading in the dark or bending over for a long time without resting the eyes, etc. cause nearsightedness.

Pathogenesis: In newborns, the eyelid is small, and when the child is 9-12 years old, it takes a normal shape (see Eye). Sometimes the eyelid becomes elongated, and the distance from the pupil to the retina increases. In this case, the parallel rays coming from distant shapes do not reach the retina of the eye, they are refracted in the middle of the path and are focused, as a result, the shape of the visible object is not clearly reflected on the retina, and the person does not see well in the distance.

Degrees: Myopia is divided into three degrees: mild - up to 3.0 D, moderate - from 3.0 D to 6.0 D, and severe - above 6.0 D. The degree of myopia is determined by the refractive power of the glasses. The lens of the glasses refracts the light so that the visible image falls on the retina. Myopia strains the membranes of the eyes (proteinaceous, vascular, retinal) and muscles, they stretch and the optical axis of the eye becomes longer, as a result of which myopia becomes stronger, which reduces the ability of the eye to see.

Predisposing factors: accommodation (the ability of the pupil to thicken and thin) has a great influence on the severity of myopia. In general, myopia is more common in people with impaired eye accommodation, and it also depends on the breed.

Symptoms: In order to reduce myopia, it is necessary to pay attention to the initial symptoms. For example, if a student does not like writing on the board from a distance, reads a book while bending over, or tries to sit in the front row of cinemas or theaters, he should immediately consult an eye doctor. After a thorough examination of the pupil, the doctor recommends glasses or contact lenses if necessary.

Prevention: To prevent myopia, it is necessary to observe eye hygiene, not to strain the eyes, not to bend down for a long time, not to bend the head suddenly. In severe myopia, it is necessary to follow the doctor's advice.

Epidemiology: Global refractive errors are estimated to affect 800 million to 2.3 billion people. The incidence of myopia in a sampled population often depends on age, country, sex, race, ethnicity, occupation, environment, and other factors. Variability in testing and data collection methods makes comparisons of prevalence and development difficult.

The prevalence of myopia is 70-90% in some Asian countries, 30-40% in Europe and the United States, and 10-20% in Africa. Myopia is twice as common in Jews as in non-Jews. Myopia is less common in people of African descent and related diaspora.

CONCLUSIONS

Preliminary evidence suggests that the risk of nearsightedness may be reduced by spending more time outdoors in young children. This reduced risk may be due to exposure to natural light. Nearsightedness can be corrected with glasses, contact lenses, or refractive surgery. It is the easiest and safest way to fix glasses. Contact lenses can provide a wider field of vision, but are associated with the risk of infection. Refractive surgery permanently changes the shape of the cornea.

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