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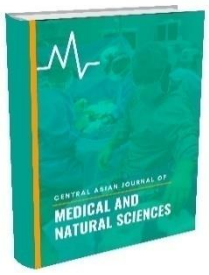

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Diagnosis and Treatment Asthenopia with Computer Vision Syndrome

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Abstract: The data on the treatment of asthenopia in 33 patients (22 men and 11 women) aged 22 to 38 years with computer visual syndrome are presented.

M-cholinomimetics, alpha-adrenergic agonists and their combinations were used as a pathogenetic effect on the accommodative muscle in the treatment of asthenopia in computer visual syndrome. Timely medical treatment allows you to completely get rid of the clinical manifestations of computer visual syndrome and stop myopization of the eye.

Keywords: asthenopia, computer vision syndrome, treatment

Relevance:

For the first time, the concept of computer vision syndrome (CVS, ComputerVisionSyndrome - CVS) was introduced in 1997 by the American Association of Optometrists (Americanoptometricassociation), who combined under this concept a complex of visual and ocular symptoms associated with prolonged work at a personal computer.

Today, due to the steady growth of computerization and the time spent by a person at a personal computer, tablet or smartphone, the number of patients seeking medical help with asthenopic complaints of symptoms characteristic of computer vision syndrome is also increasing.

One of the urgent problems of recent times is the negative impact of computerization on the health of the population. The massive introduction of computer technology has led to the fact that 94% of users experience excessive visual loads, leading to the development of computer visual syndrome.

Since the influence of a computer on a person's visual analyzer has a negative impact, the issues of timely diagnosis and treatment of computer visual syndrome remain relevant.

The aim of the study is to study the issues of timely diagnosis and treatment of asthenopia in computer vision syndrome.

Material and methods of research:

An ophthalmological examination of 33 patients (22 men and 11 women) aged 22 to 38 years who filed asthenopic complaints while working at a personal computer was conducted.

Comprehensive ophthalmological examination included visometry with and without optimal correction, autorefractometry before and after cycloplegia, determination of relative accommodation margin, biomicroscopy, ophthalmoscopy, perimetry and tonometry.

The results of the study:

Primary diagnosis is based on anamnesis data and patient complaints.

Our studies have shown that patients most often complained of blurred vision, blurred images and letters on the computer screen, a burning sensation in the eyes, a feeling of grains of sand appearing under the eyelids, pain near the eye sockets and forehead.

They also complained of redness of the eyes, headaches, pain in the neck-collar area, and dizziness.

Differential diagnosis was carried out with allergic conjunctivitis, dry eye syndrome not associated with computer work, blepharitis, lagophthalmos, presbyopia, various types of ametropia.

M-cholinomimetics, alpha-adrenomimetics and their combinations were used as pathogenetic effects on the accommodative muscle in the treatment of asthenopia in computer vision syndrome.

Patients were prescribed mydriacil 0.5% and 1% or tropicamide 0.5% and 1% at night.

Cyclopentolate hydrochloride (cyclomed 1%, Sentis, India) was used in patients with persistent habitually excessive accommodation disorder with asthenopic syndrome, causing deep but short-term cycloplegia.

Another area of local drug therapy for accommodative asthenopia was the use of alpha-adrenomimetics. The most frequently used drugs based on phenylephrine and hydrochloride, such as mezaton 1% and 2.5% and irifrin 2.5%, 2 drops per night daily for 1 month.

Drug therapy also included the use of "artificial tear" preparations, which form a stable film on the surface of the eyeball, protecting the cornea from drying out while reducing blinking movements while working at a computer.

Antioxidant therapy was used in the treatment of visual fatigue: dicvertin, selenium, zinc, lutein, betacarotene and anthocyanosides of blueberry extract were prescribed.

In particular, dicvertin has high antioxidant activity, capillaroprotective, anti-inflammatory effect, improves rheological properties of blood.

Anthocyanosides strengthen blood vessels, accelerate the regeneration of rhodopsin, enhance capillary blood flow in the retina.

Beta-carotene protects cells from damage by reactive oxygen species and free radicals, accelerates the regeneration of rhodopsin.

Patients were prescribed ascorbic acid, which is involved in the synthesis of ATP and collagen.

They also prescribed strix, anthocyanin forte, blueberry forte, lutein complex, and okuvaitlutein.Magnetotherapy and reflexotherapy were used for physiotherapeutic methods of influencing the organ of vision with visual fatigue.

All patients with computer vision syndrome were recommended to periodically relax the accommodation muscles, adjusting the eye to the farthest point of better vision, take 20-second breaks every 20 minutes and look into the distance at a distance of 6 meters.

Conclusion:

Thus, overstrain of the accommodative apparatus of the eye leads to various disorders on the part of the organ of vision and the development of computer visual syndrome.

Therefore, early diagnosis, treatment and prevention of manifestations of computer vision syndrome is relevant.

An adequately selected drug effect leads to an increase in the acuity of daytime and twilight vision, an improvement in spatial contrast sensitivity, and a decrease in the symptoms of asthenopia.

Timely medical treatment allows you to completely get rid of the clinical manifestations of computer vision syndrome and suspend myopization of the eye.

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