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Computer vision syndrome and homoeopathy

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Abstract

In the twenty-first century personal computers are one of the commonest office tools, in almost all institutions, for a wide variety of vocational and non-vocational purposes. The introduction of computers and visual display terminals has brought a phenomenal change in our lives and soon has become an integral part of our daily life. With the continuous improvement in computer-related devices and an enhanced audio-visual experience, even the elderly people are using it with great interest to stay active in this ignorant society. The children and students of any age have very gradually switched on to computer-based learning thinking that it's a better option than classroom teachings. This paradigm change very slowly has penetrated in our youth as well as most of the business-related activities are based on the use of computers by the employees whose job demands long continued hours of sitting in front of computers.

Keywords: American Optometric Association, Computer vision, syndrome and homo

Introduction

Computer vision syndrome

Definition

The American Optometric Association (AOS) defines Computer Vision Syndrome as a group of eye and vision related problems resulting from prolonged use of computers, tablets, e-readers and cell phones [1]. It is also known as Digital eye strain (DES) [2], Occupational asthenopia [3], Digital asthenopia [4], Video display terminal syndrome (VDTS) [5, 6].

It is one of the occupational diseases which affect the eye. Computer Vision Syndrome is emerging as a significant ocular health problem in computer professionals [7].

Causes

CVS occurs as a result of prolonged digital screen use. Digital screens cause a person's eyes to work harder than normal [8].

- An unsuitable environment [9].
- Improper use of eyeglasses or contact lens [9].
- Occupation.

Pathophysiology

- The focusing mechanism of human eyes are not similar for printed text and for visual display units but give a response in different ways.
- Each pixel is bright at its center and with decreasing brightness towards the periphery.
- So that the human eyes cannot sustain focus on the pixel characters [10].
- Instead the focusing system lags behind the computer screen due to the vertical position of gaze which is the preferred position by computer users relative to reading a printed text [11]. This point is called the dark focus.
- Hence the eyes are constantly relaxing to a resting point of accommodation or dark focus and struggling to gain focus on the pixel's character frequently.
- This frequent focusing and refocusing of the eye by the ciliary body creates fatigue to the eye and causes accommodative symptoms related to CVS [12].
- This lag of accommodation leads to ocular symptoms related to CVS.
- CVS is caused by decreased blinking reflex while working long hours focusing on computer screens.
- Normal Blink Rate is 16-20 per minute and is reduced to 6-8 per minute. This leads to dry eyes.

- The longer the use of computers leads to a decrease in blink reflex.
- Repeated head posture change / wrong posture to maintain focus causes strain on the neck muscles and cervical spine resulting in neck and back pain

Clinical Features

Ocular symptoms ^[13]

Eye strain, Blurred vision, Dry and irritated eyes, Light sensitivity, Double vision.

Extra Ocular Symptoms ^[13]

Headache, Depression and Musculoskeletal aches

Diagnosis ^[14]

1. Comprehensive eye examination.
2. Visual acuity measurements to assess the extent to which vision may be affected.
3. A refraction to determine the appropriate lens power needed to compensate for any refractive errors.
4. Eye coordination test: Testing how the eyes focus, move and work together.

Management

- Resting the eyes for 15 minutes after two hours of continuous computer use.
- Every 20 minutes, look into the distance at least 20 feet away from the computer or digital device. Do this for at least 20 seconds.
- Enlarge the text on your computer screen.
- Think about using a screen glare filter
- Remember to blink often.
- Using lubricating drops.
- Fix your chair height so your feet can rest comfortably on the floor.

Homoeopathic management ^[15]

Ruta Graveolens: Eyes-strain followed by headache. Eyes red, hot, and painful from sewing or reading fine print. Disturbances of accommodation. Weary pain while reading. Tarsal cartilage feels bruised. Pressure over eyebrow.

Aurum Metallicum: Extreme photophobia. Great soreness all about the eyes and into eyeballs. Double vision; upper half of objects invisible. Feel tense. Violent pains in bones around eye. Pains from without inward. Sticking pains inward. Hopeless, despondent, and great desire to commit suicide.

Euphrasia Officinalis: The eyes water all the time. Acrid lachrymation; bland coryza. Discharge thick and excoriating. Burning and swelling of the lids. Frequent inclination to blink. Free discharge of acrid matter. Sticky mucus on cornea; must wink to remove it. Pressure in eyes.

Gelsemium Sempervirens: Double vision. Disturbed muscular apparatus. Vision blurred, smoky. Dim-sighted; pupils dilated and insensible to light. Orbital neuralgia, with contraction and twitching of muscles. Bruised pain back of the orbits.

Natrium Muriaticum: Feels bruised, with headache in school children. Eyelids heavy. Muscles weak and stiff.

Letters run together. Sees sparks. Fiery, zigzag appearance around all objects. Burning in eyes. Give out on reading or writing. Lachrymation, burning and acrid. Lids swollen. Eyes appear wet with tears. Pain in eyes when looking down.

Phosphorus: Sensation as if everything were covered with a mist or veil, or dust, or something pulled tightly over eyes. Black points seem to float before the eyes. Patient sees better by shading eyes with hand. Fatigue of eyes and head even without much use of eyes. Letters appear red. Partial loss of vision from abuse of tobacco. Pain in orbital bones. Paresis of extrinsic muscles.

Physostigma Venenosum: Photophobia; contraction of pupils; twitching of ocular muscles. Paresis of accommodation. Profuse lachrymation. Spasm of ciliary muscles, with irritability after using eyes.

Conclusion

In conclusion, as computers become ubiquitous in daily life, the rise of Computer Vision Syndrome (CVS) poses a significant concern. This study delves into the impact of prolonged computer use on individuals of all age groups and explores the potential of homeopathic interventions in mitigating the symptoms associated with CVS. The findings suggest promising avenues for integrating homeopathy into the management and prevention of computer-related visual discomfort, catering to a society increasingly reliant on digital technology.

Conflict of Interest:

Not available

Financial Support:

Not available

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