

COMPUTER VISION SYNDROME - AYURVEDIC APPROACH

Anjali¹, Poonam Bamola², Kanchan Chauhan³

¹Assistant Professor Dept. of Shalakya Tantra Mai Bhago Ayurvedic College Muktsar, Punjab, India

²Assistant Professor Dept. of Shalakya Tantra, SGT Ayurvedic College Gurugram, Haryana, India

³PG.Scholar Dept. of Shalakya Tantra Rishikul Campus, Uttarakhand Ayurveda University, Haridwar, Uttarakhand, India

Email: dranjali30j@gmail.com

ABSTRACT

Computers have become an essential part of life. Every one, in one or other situation, gets the need to use computer. Since the advent of games, various computer programmes, the use of computers extended to such an extent, that various jobs are now based solely on use of computers. Here the person's job demands the use of computer for more than 8 hours a day. Since the computer is involved with vision and eyes, it has some effect on eye and surrounding muscles. Most of these symptoms are due to Dryness of eyes which is created by the monitor light, and reduced blinking. In this review article an attempt is made to discuss about role of *Ayurveda* in preventing Computer Vision syndrome.

Keywords: Computer Vision Syndrome, Dry eye, Ayurveda.

INTRODUCTION

The knowledge bank of modern life has emerged as a profession causing vision related discomfort, ocular fatigue and systemic effects. Computer Vision Syndrome is the new nomenclature to visual, ocular and systemic symptoms arising due to long time and improper working on computer and is emerging as a pandemic in 21st century. The increased use of computers in the workplace has brought about the development of a number of health concerns. Many individuals who work at a computer report a high level of job-related complaints and symptoms, including ocular discomfort, muscular strain and stress. The level of discomfort appears to increase with the

amount of computer use. Visual discomfort and related symptoms occurring in computer workers must be recognized as a growing health problem. The complex of eye and vision problems related to near work experienced during computer use has been termed "computer vision syndrome". Many individuals who work at a computer experience eye-related discomfort and/or visual problems. However, based on current evidence it is unlikely that the use of computers causes permanent changes or damage to the eyes or visual system. This report will review the factors relating to eye and vision problems asso-

ciated with computer work and provide recommendations for preventing or reducing the symptoms.

Working adults aren't the only ones affected. Kids who stare at tablets or use computers during the day at school can have issues, too especially if the lighting and their posture are less than ideal. It isn't one specific problem. Instead, it includes a whole range of eye strain and pain. Dry eye is a major symptom that is targeted in the therapy of CVS. Dry eyes is not a very dangerous issue but can cause serious problems if not get the attention at the time. CVS also get worse the longer you continue the activity. In many cases the symptoms appear after several hours of work and not immediately.

AYURVEDIC REVIEW-

Computer Vision Syndrome has no direct reference in Ayurvedic classics; it can be correlated to symptoms of *Shushkakshipaka* of *Sarvaksiroga*¹. An Ayurvedic approach can be given on the basis of fundamentals of *Ayurveda*. *Nidana* and *Samprapti* can be understood by *trividha hetu's* (*astamiya indriyarthasamyoga, prajnapradha, parinama*) related to *chakshurendriya* (eye). The symptoms of CVS are related to *vata-pitta pradhana tridosha* vitiation at *chakshurendriya* leading to *Shushkakshipaka* is a disorder of the eye characterized by difficulty while closing the lids because of *Daruna Rooksha Vartma Yat Kunitam*² (Hardness and Roughness of the Eye Lid), *Avila Darshana* (Patient cannot see the Objects Clearly), *Sudarunam Yat Pratibhodanam* (Difficulty in Opening/Closing the Eye). According to Vagbhata³ it is characterized by *Gharshna* (Foreign Body Sensation), *Toda* (Pricking Pain), *Upadeha* (Loss of Clear Vision), *Rooksha Daruna Vartma* (Hardness and Roughness of the Eye Lids), *Krichra Unmeela Nimeela* (Difficulty in Closing and Opening of Eye Lids), *Sushkata* (Dryness), *Shoola* (Pain).

CAUSES OF COMPUTER VISION SYNDROME-

- 1) Distance and angle from computer screen
- 2) Less lightning in room
- 3) Glare on the screen
- 4) Reduced blink rate

5) Increased tear evaporation

SYMPTOMS OF COMPUTER VISION SYNDROME - occur because the visual demands of the task exceed the visual ability of the individual to comfortably perform them. At greater risk for developing computer vision syndrome are those persons who spent eight or more hours at computer every day. Common symptoms are-

- Eyestrain
- Headaches
- Blurred vision
- Difficulty in changing focuses between far and near
- Dryness of eyes
- Irritated eyes
- Tired eyes
- Redness
- Contact lens discomfort.

MANAGEMENT-

The goals of *Ayurveda* treatment for Dry Eyes include correcting the vitiation of *Vata dosha* in body and in the eyes also relieving the symptoms of CVS and correcting the digestive fire and encourage lubrication in the body. The main concept of treatment of *Netra roga* is *Nidan parivarjan* and *Vatadi doshanashak*. *Nidana Parivarjana* (Avoid computer) is the first and foremost *Chikitsa* in CVS.

Eye wash (*Prakshalan*): Eyewashes are very good for eye irritation and burning eyes. Just fill your mouth with cool water (without swallowing it) and splash cool water over your open eyes. This is a very effective method and it has a double cooling effect, both from outside and from the oral cavity that will make your eyes feel fresh, happy and cheerful. If in one glass water add one tsp of *Triphala* powder and keep it overnight. Next day strain the water and wash your eyes with this *Triphala* water at least 2-3 times in a day. *Triphala* is very good herb for eyes and this method can give very good results.

Washing the eyes with medicated decoctions like *Lodhra* or *Amalaki Swarasa* after getting up from bed in the morning is a very good therapy for eyes⁴.

Netra Tarpana⁵: It is a specialized *Ayurvedic* treatment for eyes, that helps relieve tiredness and im-

proves eyesight. *Netra Tarpana* acts as both preventive & curative therapy for maintaining normal healthy condition of eyes. *Netra Tarpana* is a procedure where the lukewarm medicated oil or ghee is made to stay stagnant in the eyes for a speculated time in a specific formed frame. *Ghrita* which is *Madhura-Sheeta* so; it is best for *Vatapitta* vitiated diseases. The *Ghrita* with decoction of medicines has the quality of trespassing into minute channels of the body, hence when applied in the eyes; it enters deeper layers of *Datus* and cleans every minute part. The lipophilic action of *Ghrita* facilitates the transportation of the drug to the target organ and finally reaches the cell because the cell membrane also contains lipids. Moreover, the preparations used in *Netra tarpana* is in the form of suspension containing different particles of the drug and the particles do not leave the eye as quick as a solution. Tissue contact time and bioavailability is more and hence therapeutic concentration is achieved by *Netratarpana*.

Anjana (collyrium) – applying *Lekhananjana* because of *Theekshna* property, eliminate the vitiated *Doshas* from the *Siras* pertaining to *Varthma* and eye⁶.

Abhyanga suppress the *Vatadosha* confined to eye. Local *Abhyanga* over the eyes gives cooling effect & also relaxes the eye from strain and also strengthens the muscles of the eyes. *ShiroAbhyanga* helps the oil to reach up to the brain. The optic nerve which ends in the *Drishtipatalam* (retina) is the direct extension of brain stem. So daily application of oil, selected according to the *Prakriti* of the person helps in preventing eye diseases and also nourishes all sense organs and also helps in *Drishtiprasadana*⁷.

Aschyotana - Instillation of drops of medicines to the open eye from a height of two *Angulas* is called as *Aschyotana*. After instillation of drops into the eye, it comes in contact with tear and due to blinking of eyelids the drugs get mixed with tear. After mixing with tear the drugs come in contact with conjunctiva and due to hydrophilic nature of conjunctiva the drugs get directly absorbed through conjunctival sac by the trans-cellular pathway and correcting the

abnormalities caused due to insufficient formation of tear film on pre-corneal surface⁸.

Yoga: *Yogic* practices help to reduce eyestrain and also build up the stamina of eye muscles. Mainly *ShatKriyas* like *Trataka* & *NetiKriya* helps in improving the vision & maintain the eye health⁹.

Rest breaks - To prevent eyestrain, try to rest your eyes when using the computer for long periods. Rest your eyes for 15 minutes after two hours of continuous computer use. Also, for every 20 minutes of computer viewing, look into the distance for 20 seconds to allow your eyes a chance to refocus (20-20-20 RULE- For every 20 minutes once, one should look at something kept 20ft away for 20 seconds)

Blinking - To minimize your chances of developing dry eye when using a computer, make an effort to blink frequently. Blinking keeps the front surface of your eye moist.

Regular eye examinations and proper viewing habits can help to prevent or reduce the development of the symptoms associated with Computer Vision Syndrome.

DISCUSSION

Computer vision syndrome name is not described in *Ayurveda* text but *Ayurveda Siddhantas* are applied by centuries by observing, understanding diseases and by well testing. By above discussion it can be concluded that *Ayurveda Siddhantas* are eternal and can be applied in understanding newer diseases like Computer Vision disease in *Poorvaroopavastha* itself so that it doesn't worsen the condition. Dry eyes occur due to decreased production of fluids from tear glands, which prevent tears from performing their practical functions and affect vision. When eyes become dry, they may lead to irritation. The *Nidana* mentioned under the CVS i.e. duration of Computer work is directly proportional to the severity of the symptoms in CVS. So *Nidana Parivarjanameva Chikitsa* can be well applied here. By By above treatment modalities it can be said that CVS can be well managed with *Ayurveda* treatment.

CONCLUSION

With the advancement of new technologies, occupational challenges, environment etc. has led to the manifestation of new disorders as Computer vision syndrome. Ayurveda is an effective solution to treat several eye problems, including cataract, glaucoma, free of moisture eye syndrome and macular deterioration. Regular eye examinations and proper viewing habits can help to prevent or reduce the development of the symptoms associated with CVS. So, Ayurveda is one of the effective medical systems which are beneficial to keep your eyes healthy.

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