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RESEARCH ARTICLE

COMPUTER VISION SYNDROM & IT'S MANAGEMENT THROUGH AYURVED AND YOGA

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Abstract

In the modern era of Globalization, Human life style has been completely changed and it is full of competition and advance technologies. Nowadays use of computer ,Internet surfing is common and many computer users have Computer vision Syndrome; its temporary condition resulting from focusing the eyes on a computer display to protected, uninterrupted period of time. According to the National Institute of Occupational Safety and Health, CVS affects about 90% of people who spend 3 hrs or more per day at a computer. In systems of medicine including *Ayurveda* and *Yoga* to suggest experiments and contribute alternative modalities to alleviate or to check the sufferings of the computer users. Ayurveda refers treatments for CVS is *Netra Tarpana* , *Netra Dhara* , *Aschottana*, *Vidalaka*, *Netra Sanjeevini*, *Nasya/Shiro virechana*, *Shiro dhara/Shiro Abhyangam* and/or *Shiro pichu*, *Netrya taladharana*, *Virechana*, *Pada Abhyanga*, *Netrya gandhoosha*. *Asanas*, *Pranayama* and all the yogic practices had a definite purpose. The focusing exercises and *Trataka* improve the ability to make visual adjustments, the accommodation reflex and concentration, and help to stimulate as well as relax the eye muscles. The palming, blinking and splashing exercises relax the eye muscles.

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INTRODUCTION

In the modern era of Globalization, Human life style has been completely changed and it is full of competition and advance technologies. Nowadays use of computer ,Internet surfing is common and many computer users have Computer vision Syndrome; its temporary condition resulting from focusing the eyes on a computer display to protected, uninterrupted period of time. Symptoms of computer vision Syndrome are Headache, tired and catchy eyes, Dryness of eyes, blurred or double vision, difficulty in focusing after working long duration on computer. According to a study 50-60% of computer user experiences the symptoms of Computer Vision Syndrome, its cause preventive steps¹.

Computer is the most beautiful gift ever to the mankind from the modern day science. Most of us are exposed to the computers and work on it throughout the day. Some of us does it overnight also. Even today's children are no exception. Most of our day to day work depends on the use of computers. But at the end of the day our eyes get tired and sick. They don't recover even after adequate rest since we cannot avoid the cause i.e the computers. This problem has become very common today. This condition is called CVS or Computer Vision Syndrome. People who spend more than two hours on a computer each day will experience symptoms of CVS or

Computer Vision Syndrome. According to the National Institute of Occupational Safety and Health, CVS affects about 90% of people who spend 3 hrs or more per day at a computer².

What is Computer Vision Syndrome?

- This condition most commonly occurs when the viewing demand of the task exceeds the visual abilities of the video display terminal (VDT) user.
- The American Optometric Association defines CVS as that “complex of eye vision problems related to near work which are experienced during or related to computer use.”³
- CVS is caused by extensive use of computer which reduces the blinking rate of person and due to this water flow across the eye is reduced drastically and leads to dryness⁴.

CVS: The Problem

- Working at the computer all day is a physically demanding job. When working at the computer all day long the eyes receive the worst punishment. When working on the computer one full day, your eyes perform a near-task an amazing 25,000 times that match's one heartbeat⁵.
- When using the computer your blink rate decreases by a drastic 70 percent. Generally speaking means that instead of blinking an average of 14 times per minute, you are now blinking 7 times per minute.
- There are more than 10 Million visits to eye doctors every year for CVS related problems.

Causes of Computer Vision Syndrome⁶:

A person's vision is not suited for staring at a computer screen for many hours. Computer screens are made up of pixels or tiny dots, on which the eye can not lock its focus. The computer user must therefore focus and refocus to keep the images sharp. This results in receptive stresses of the eye muscles.

Additionally, after prolonged computer use, the frequency of blinking is decreased, which causes the eyes to dry and become sore. As a result, the ability to focus diminishes and vision may blur, which causes headaches and neck pain. Any person who spends approximately two hours a day working on a computer is at risk for developing Computer Vision Syndrome.

What are the symptoms of Computer vision Syndrome⁷?

- Eyestrain
- Headaches
- Blurred vision
- Dry and irritated eyes
- Neck ache and backache
- Sensitivity to light
- Double vision

Other symptoms of Computer Vision Syndrome

- Slowness in changing the focus of your eyes
- Red eyes
- Contact lens discomfort
- Changes in color perception
- Glare sensitivity
- Excessive tearing

Ayurveda and CVS:

In *Ayurvedic* classics, no direct reference of CVS is available but on the basis of symptoms, CVS can be correlated with *Shushkakshipaka* which is one among *Sarvagata Netra Roga*⁸

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(अ.३.च.१३/३७)

The eye (vision) that gets deranged by observing (exposure to) sun's rays, fire, lightening etc. should be given *tarpana* therapy with medicine which are unctuous, cold etc. gold rubbed in *ghrita* should be used as collyrium. Computer is also one of the light, electric and heat producing device and CVS is one among such exposure ocular condition occurring due to use of computer. So treatment told by *Acharya Vagbhata* that is *sheeta*, *snigdha* and *santarpana chikitsa* can be applied in CVS⁹.

On having critical analysis of symptoms of CVS, it is clear that all the symptoms are mainly related to vitiation of *Vata* and *Pitta doshas*. These vitiated *doshas* traverses to the eyes by *siras* and gets accumulated in eye to manifest the disease *Shushkakshipaka*¹⁰. In *Shushkakshipaka*, eyes become dry and gritty, eye lids becomes hard, rough & it becomes difficult to open up the eyes, and vision is blurred. There is pricking type of pain, foreign body sensation in eyes and constriction of eye and liking of cold. These all features indicate the vitiation of mainly *Vata* and *Pitta dosha*. Ayurveda helps rejuvenate your eyes and also make them capable of bearing the day to day stress.

Ayurvedic treatments for CVS:

- Netra Tarpana.
- Netra Dhara.
- Aschottana.
- Vidalaka.
- Netra Sanjeevini.
- Nasya/Shiro virechana.
- Shiro dhara/Shiro Abhyangam and/or Shiro pichu.
- Netrya taladharana.
- Virechana.
- Pada Abhyanga.
- Netrya gandhoosha.

“Sarvendriyanam Nayanam Pradhanam” (Su.Sam)

Eyes are god's greatest gift and are said to be the best among all sense organs as per Ayurveda. All our life activities are possible only when our vision is proper.

Triphala eye drops relieve the eye strain and strengthen the visual function. The fruit triad of Haritaki, Vibhitaki, Aamalaki holds excellent in Ayurvedic ocular therapies, as it is prescribed for the treatment of many ocular diseases in the different forms. Triphala has Tridoshaghna property; so, it also helps in reversing the disease by reversing the vitiated Vata-Pitta Doshas by its Gunas like Ruksha, Laghu; Sheeta, Guru, and with Panch Rasatmaka Lavana Varjita Kashaya Rasa. Also, Triphala in the eye drops form helps to reduce the local symptoms as well as it strengthens the eye. Application of Triphala in the form of eye drops makes the drug available for immediate action.

Thus, these drugs help to increase the ocular strength, which in turn increases the organ's capacity to overcome its pathological condition¹¹.

As per the reference of *Ashtanga Hridaya Jeevaniya Ghrita* is considered very effective in the management of dry eye orally as well as locally (*Tarpana*)¹². Attributes of *Ghee* i.e. unctuousness and coldness are antagonistic to those of *Vata* and *Pitta* like dryness, lusterless, roughness and heat respectively¹³. Moreover Vitamin A and E present in *Ghee* are Antioxidants and Vitamin A keep epithelial tissue of Body intact and keep the outer lining of eyeball moist. Lipophilic action of *Ghee* facilitates transportation of drugs to the target organ (Eye) since corneal epithelium is also permeable to lipid soluble substances. Also the drugs processed with *Ghee* remains with the contact of eye surface for longer time thereby providing maximum effect.

Drishiti Prasadaka Yoga is having drugs like *Triphala*, *Patola*, *Guduchi*, *Yasthimadhu*, *Shatavari* all of which are having *Tridoshahar* mainly *Pittashamaka*, *chakshushya* and *Rasayana* properties and *Dashmool* having *Tridosha shamaka* mainly *Vata shamaka* properties thereby subsiding symptoms of excessive fatigue and inflammatory conditions of body and eye.

Yogic practices:

Yogic eye exercises and relaxation of eye muscles help to reduce eyestrain and also build up the stamina of eye muscles. The preparatory eye practices of sideward, diagonal, circular, upward and downwards viewing have perform and palming have done after each practice. Types of palming included simple palming, palming with pressure, palming with the breath and palming with Bhramari pranayama.

After the preparatory eye practices, focusing exercises have to perform. These included left and right gazing, upwards and downwards gazing, nose tip gazing and eyebrow centre gazing. Participants have asked to blink frequently and intentionally during the practices to provide a good tear film for healthy eyes. Gazing at distant objects has to practice intermittently during the practices to provide relief to eyeball muscles. Splashing the eyes with water was taught and the participants were advised to carry out the practices at their place of work.

The Asanas included vajrasana, shashankasana, ushtrasana, pawanmuktasana I and II, marjariasana, utthitadwipadasana, utthan vakrasana, bhujangasana, hastapadasana, and baddhahastasana. The pranayamas that practice included bhramari, sheetali and sheetkari. Palming of the forehead has practice to provide relief to forehead muscles. The participants also took part in singing devotional songs and meditation sessions.

TRATAKA¹⁴

Tratak is practiced in two stages. In the first stage, the practitioner fixes attention on a symbol or *Yantra*, such as the 'Om' symbol, a black dot, or the image of some deity, and stares at it, paying attention to each thought and feeling as it arises, and letting them go, so that the mind is completely absorbed with the symbol. The practice continues until the eyes begin to water, at which point they are closed, and relaxed. The focusing exercises and *Trataka* improve the ability to make visual adjustments, the accommodation reflex and concentration, and help to stimulate as well as relax the eye muscles. The palming, blinking and splashing exercises relax the eye muscles.

The second stage is staring at a candle flame. The practice is the same up until the eyes begin to water, after which the eyes are closed, and the patient tries to concentrate on the after image, and hold it for as long as possible. At first, it will be a real after image, but later, it will exist only in the mind's eye, and the exercise in concentration comes from trying to hold it there for a long period of time

Prevention of Computer Vision Syndrome:

When working at a computer, there are certain preventive measures that can reduce eyestrain. Good tips to keep in mind are: position the monitor 20 to 26 inches away from the eyes, arrange light sources in a position that will minimize glare and reflections on the screen blink frequently to moisture the eyes and take vision breaks from your computer.

- Make sure your computer screen is 20 to 24 inches from your eyes at about 20° below eye level.
- If you use a document holder, keep it close to the screen.
- Dim overhead lights and keep desk lamps low and properly adjusted, so that the light doesn't enter your eyes or fall on screen.
- Every 15 minutes, focus on distant objects to relax your muscles.
- If needed, use an anti-reflective filter on the screen.
- Make effort to blink more frequently.

The solutions to Computer Vision Syndrome

- Install a glare guard, an optically coated glass anti-glare filter. The high resolution, high contrast filter increases view ability.
- Have a thorough eye exam
- Install a screen or partition behind your computer to reduce both outside light and overhead glare.

Other cures for Computer Vision Syndrome

- Use a non-reflective paint or coverings on the walls facing the computer.
- Use equipment with brightness controls or add such controls to your screen
- If possible, relocate lamps that cause reflections on the screen.
- Add dimmer switches to overhead lights or use coverings on fluorescent lights.
- Make sure there is sufficient light to read hard copy without straining.
- Adjust the height of your desk or chair so the middle of the computer screen is about 20 degrees below eye level. The screen itself should be 16- 30 inches from your eyes.
- Use a stand for hard copy so that source documents and the computer screen are at roughly equal distance from the eyes.
- Be sure to blink frequently and take visual breaks. A good rule of thumb is 20/20, 20 minutes, look 20 feet away for 20 seconds.
- Place reference to typing materials close to the computer screens.
- If your eyes are dry or irritated, use eye drops to moisturize and lubricate
- If any symptoms are worse of you sight is deteriorating, make an appointment to see your eye care professional.

Conclusion:

In systems of medicine including *Ayurveda* and *Yoga* to suggest experiments and contribute alternative modalities to alleviate or to check the sufferings of the computer users. Computer is also one of the light, electric and heat producing device and CVS is one among such exposure ocular condition occurring due to use of computer. So treatment told by *Acharya Vagbhata* that is *sheeta*, *snigdha* and *santarpana chikitsa* can be applied in CVS. The focusing exercises and *Trataka* improve the ability to make visual adjustments, the accommodation reflex and concentration, and help to stimulate as well as relax the eye muscles. All the yogic practices had a definite purpose. The focusing exercises and *Trataka* improve the ability to make visual adjustments, the accommodation reflex and concentration, and help to stimulate as well as relax the eye muscles. The palming, blinking and splashing exercises relax the eye muscles.

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