

MONTH: SEP: OCT -2015

VOLUME: 3, ISSUE: 3

ISSN: 2348-1846



Punarna V

TITLE

**COMPUTER VISION SYNDROME IN AYURVEDIC PROSPECTIVE: A LITERARY
REVIEW**

SANDEEP KUMAR SINGH CHAUHAN, BHANUPRIYA SINGH, A.P VALJWADE

**AN INTERNATIONAL PEER REVIEWED AYURVED JOURNAL
ON LINE BI-MONTHLY AYURVED JOURNAL**

www.punarnav.com

Email: explore@punarnav.com, punarnav.ayu@gmail.com



COMPUTER VISION SYNDROME IN AYURVEDIC PROSPECTIVE: A LITERARY REVIEW

SANDEEP KUMAR SINGH CHAUHAN¹, BHANUPRIYA SINGH², A.P VALJWADE³

¹ PG SCHOLAR DEPARTMENT OF SALAKYATANTRA, ² M.D. DEPARTMENT OF SHARIR KRIYA, ³ ASSOCIATE PROFESSOR DEPARTMENT OF SALAKYA TANTRA, GOVERNMENT AYURVEDIC COLLEGE NANDED (MAHARASHTRA),INDIA

ABSTRACT:

Today, in the 21st century, where we are living in a highly sophisticated environment, computer is one of the most developed technologies which are used presently by the children, the young and the old. About 90 % of people who use computer every day suffer from problem called COMPUTER VISION SYNDROME (CVS). CVS also refer to as DIGITAL EYE STRAIN describes a group of ocular and vision related problems that result from prolonged computer, tablets, e reader and cell phone uses. Ayurveda being a primeval anticipatory and remedial discipline throws a ray of light modulating our body and managing most of ailments even the diseases of modern civilization like CVS, Hypertension, Diabetes mellitus etc. It is very complex to get of the direct reference regarding to most of diseases of modern evolution. Ancient ayurvedic Pioneers quotes that management of all of the ailment's is possible if we wisely appreciate the dosha dushya sammurchana in the particular condition .So here an attempt is made to postulated the vyadhi samprapthi through ayurvedic fundamentals.

Kyeworlds: Ayurveda, computer vision syndrome, Samprapthi.

CORRESPONDENT:

DR. SANDEEP KUMAR SINGH CHAUHAN
PG SCHOLAR DEPARTMENT
OF SALAKYATANTRA
GOVERNMENT AYURVEDIC
COLLEGE
NANDED (MAHARASHTRA),
INDIA.

INTRODUCTION

Eye holds a special status among all the sense organs. Eyes are the most precious gift of God to the living beings.

Present competitive life style in the pursuit of wealth, directly relays up on the lots of gadgets starting from the cell phone to

computers. These gadgets support by accomplishing the task in minimal time and without any physical movement but the mean time peoples are becoming victims of disease like computer vision syndrome.

It is a complex of ocular or visual problems having Symptoms eye strain, blurred vision , dry eye, burning sensation , headache.

No remedial measures for the prevention and cure of this pathology prevail in the domain of modern medicine except using ocular surface lubricants, computer glasses, and counselling for judicious computer use.¹

Computer vision syndrome has no direct reference in *ayurvedic* classic ; The symptoms explained initially under CVS are seen to be explained under *Purvarupa* of *Netrarogas* and the major symptom – Dryness of Eye & other symptoms that has been explained in CVS can be co-related to *vata-pitta pradhana vyadhi ShushkaakshiPaaka*

Acharya Vagbatta has indicated cooling and rejuvenating therapies for eyes affected by bright light, high-voltage electric spark, and heat exposure.^{6,7} . This phenomenon is also close to the etiopathology of CVS.

AIMS AND OBJECTIVES

To study Computer vision syndrome in Ayurvedic prospective so that a proper Ayurvedic treatment protocol can be established .

MATERIAL AND METHODS

Classical text of ayurveda and modern text including internet ,medical dictionaries regarding the subjects were used as source material in study.

REVIEW OF LITERATURES-

Causes Computer Vision Syndrome-

- Prolong use of computer etc.
- Lighting in the room
- Distance from the screen
- Glare on the screen
- Seating posture
- The angle of your head
- Not to mention any existing vision problems

One or all of these may combine to cause an uncomfortable amount of strain on your eyes.

PREVALENCE

Research shows computer eye problems are common. Somewhere between 50% and 90% of people who work at a

computer screen have at least some symptoms of eye trouble.

- In addition, working adults aren't the only ones vulnerable to computer vision syndrome. Kids who stare at portable video games or who use computers throughout the day at school also can experience eye problems related to computer use, especially if the lighting and computer position are less than ideal.
- According to the American Optometric Association (AOA) and National Institute of Occupational Safety and Health, computer vision syndrome affects some 90% of the people who spend three hours or more a day at a computer.

Symptoms of Computer Vision Syndrome

The most common symptoms associated with Computer Vision Syndrome (CVS) are

- Eyestrain
- Headaches
- Blurred vision
- Dry eyes
- Red eyes
- Irritation
- Neck and shoulder pain

Pathophysiology

Working at a computer requires that the eyes continuously focus, move back and

forth, and align with what you are seeing. You may have to look down at papers and then back up to type, and the eyes have to accommodate to changing images on the screen in order to create a clear picture for the brain to interpret. All of these functions require a lot of effort from eye muscles. Working on a computer is more challenging to your eyes than reading a book or piece of paper, because a computer screen also adds the elements of screen contrast, flicker, and glare.

Blink rate decreases to as low as 6-8 blinks/ minutes (Which is 16-20 blinks/ minutes normally) while focusing on the computer screen .due to decreased blinking rate early evaporation of tear film occurs in this way pathology develops .

Tear film constituents three layers which form anterior to posterior are namely lipid or oily layer, Aqueous layer and mucus layer lipid layer is outer most layer which is formed from secretions of meibomian, zeis and moll glands. Aqueous layer is formed by the secretions of lacrimal glands. Mucus layer consist of mucin secreted by conjunctival goblet cells and glands of manz. Function of lipid layer is to prevent evaporation of aqueous layer & act as surfactant. Function of Aqueous layer is to supply oxygen to corneal epithelium & wash out debris & noxious irritant. Function of Mucus layer is to

facilitates movement of lids over globe and helps in lubrication.

Three factors required for effective resurfacing of tear film are normal blink

reflex, Contact between external ocular surface and lid and third is normal corneal epithelium.

DISCUSSION

The symptoms explained initially under CVS are seen to be explained under *Purvarupa* of *Netrarogas*. Like *Avilam* (Eye seem to be filled with tears, vision diminished with such feeling) , *Samrambha* (Beginning of swelling), *Ashru* i.e increase or decrease of tears , *Kandu* i.e Itching sensation , *Updeha* i.e Incease of excretory discharge , *Guruta* (haviness) , *Toda* (pricking sensation) *Raga* (Redness), *Sasulam vartma kosesu* (There will be slight pain in lids) , *Suka purnabham* (Foregin body sensation) , *Vihanaya mana rupam* (Vision get disturb with respect to colure sense and form sense .) *Kriyasu akshi yatha pura* (improper function of eye parts).²

The major symptom – Dryness of Eye & other symptoms that has been explained in CVS can be co -related to *vata-pitta pradhana vyadhi Shushkaakshi Paaka* explained under” *Sarvagata Netra Rogas*” mentioned by Susruta as well as Vagbhata under *sadhya vyadhi* caused by *vatta pitta doshas* . According to Susruta *Shushkaakshipaaka* is a disorder of the eye characterized by difficulty while closing the lids because of *Daruna Rooksha Vartma Yat Kunitum* (Hardness and

Roughness of the Eye Lid) , *Avila Darshana* (Patient cannot see the objects Clearly) , *Sudarunam Yat Pratibhodanum* (Difficulty in Opening / Closing the eye).³

Accorpdng to Vagbhata it is characterized by *Gharshna* (Foreign body sensation) , *Toda* (Pricking pain) , *Upadeha* (Loss of clear vision) , *Rooksha Daruna Vartma* (hardness and roughness in eyelids) , *Krichra Unmeela Nimeela* (Difficulty in Closing and opening of eye lids) , *Sushkata* (Dryness) , *Shoola* (Pain) , and desire for cold comforts . These symptoms can be correlated with the symptoms of Computer vision syndrome .⁴

SAMPRAPTI GHATAKA

Dosha – Vata and Pitta

Dushya- Rasa , Rakta, Mamsa , Meda.

Srotas – Rasavaha Srotas .

Srotodruti Prakara – Sanga.

Rogamarga – Madhyama .

Adishtana – Shiras

Vyakta Sthana – Netra (All the netra mandalas).

NIDAANA

Ati Yoga of Darshanendriya – Excessive usage of eye

Mithya Yoga of Darshanendriya – Improper usage of eye

Sooksma Nireekshanaat – Seeing very small objects

Ati Saamipyat – From very close distance.

No remedial measures for the prevention and cure of this pathology prevail in the domain of modern medicine except using ocular surface lubricants, computer glasses, and counselling for judicious computer use. This opens the door to the other systems of medicine including Ayurveda to suggest experiments and contribute alternative modalities to alleviate or to check the sufferings of the computer users.

Ayurveda, the first systematic health system on this planet, has kept the doors open to prospective/undescribed health problems to be incorporated in the system on the fundamental grounds. ⁵ Upon critical and systematic review of CVS, its etiopathogenesis in view of the given guidelines regarding the new health problem seems to be a group of *Vata–Pitta* dominant ocular cum systemic symptoms.

Acharya Vagbatta has indicated cooling and rejuvenating therapies for eyes affected by bright light, high-voltage electric spark, and heat exposure.^{6,7} . This phenomenon is also close to the etiopathology of CVS. *Vatta pitta Samak Chikitsa* is effective in CVS .

So, internally administration of systemic *santarpana* (anabolic nutritional supplement)like medicated ghee of Jeevainya gana drugs (Jivaka, Rsabhaka, Meda , Mahameda , Kakoli, kshir kakoli , Mudgaparmi, Mamsaparni , Jivanti, Madhuka) can plays a major role to treat CVS.⁸

Orally administration of *Vata Pitta Samak Rasayana*.⁹s.

Externally pariseka with cold milk added with saindhava .⁹

Nasya with Anu taila¹⁰ ,or any Brumhana Taila.

local therapy in the form of *Tarpana Kriyakalpa* ¹¹ with Go Ghrita , Triphala Ghrita, etc

Yogic exercises and Tratak improve the ability to make visual adjustments and accommodations. It increases concentration and also relax the eye muscles.

Prevention of Computer Vision Syndrome

Location of computer screen - Most people find it more comfortable to view a computer when the eyes are looking downward. Optimally, the computer screen should be 15 to 20 degrees below eye level (about 4 or 5 inches) as measured from the center of the screen and 20 to 28 inches from the eyes.

Reference materials

These materials should be located above the keyboard and below the monitor. If this is not possible, a document holder can be used beside the monitor. The goal is to position the documents so you do not need to move your head to look from the document to the screen.

Lighting - Position the computer screen to avoid glare, particularly from overhead lighting or windows. Use blinds or drapes on windows and replace the light bulbs in desk lamps with bulbs of lower wattage.

Anti-glare screens - If there is no way to minimize glare from light sources, consider using a screen glare filter. These filters decrease the amount of light reflected from the screen.

Seating position - Chairs should be comfortably padded and conform to the body. Chair height should be adjusted so your feet rest flat on the floor. If your chair has arms, they should be adjusted to provide arm support while you are typing. Your wrists shouldn't rest on the keyboard when typing

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.

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.

CONCLUSION

Ayurveda has much to offer through kriyakalpas, eye exercise & medication as compared to modern medicine. Since *Nidana Parivarjana* is not possible as it become an integral part of daily life .So

internal as well as external application of *Vatapitta Samak dravyas* constitute the basic therapeutic approach in the management of CVS . Yogic Exercise and Trataka are also use full in CVS .

REFERENCES

1. Wikipedia. Computer vision syndrome, Therapy. [Last modified on 2011 Feb 09, Last Accessed on 2011 Feb 19]
2. Sushruta Samhitab Commentory by Kavi raja Dr Ambika dutta Shastri Chaukamba Prakashana Varanashi revised edition 2009 p 13 Uttar Tantra 1 Sloka 21, 22, 23
3. Sushruta Samhitab Commentory by Kavi raja Dr Ambika dutta Shastri Chaukamba Prakashana Varanashi revised edition 2009 p 39 Uttar Tantra 6 Sloka 26.
4. Vagabhata, Astanga Hrudaya Kaviraj Atridev Gupta Chaukamba Prakashan, Varanasi, revised edition 2008, p 684 Uttar Tantra 15 Sloka 16
5. Agnivesha .Charak, Dridhabala, Charak Samhita with Ayurveda Dipika Commentary of Chakrapani, Rashtriya Sanskrit Samsthan Publication; 2006. p. 108.Sutra Sthana, 18 sloka 44 – 47.
6. Vagbhata . Asthang Samgrah with Sashilekha Commentary of Indu. : Chaukamba Sanskrita Series; 2006. p. 712.Uttar Tantra, 16 Sloka 28.
7. Vagbhata . Sushruta Samhitab Commentory by Kavi raja Dr Ambika dutta Shastri Chaukamba Prakashana Varanashi revised edition 2009 p 13 Uttar Tantra 1 Sloka 21, 22, 23
8. Asthang Hridaya with Sarwangsundari Commentary of Arun Dutt and Ayurved Rasayana Commentary of Hemadri, Varanasi: Chaukamba Sanskrit Series; 2002. p. 825.Uttar Sthana, 13 Sloka 9,7.
9. Charaka samhita Commentory by P. Kasinath Pandey and Dr. Gorakhnath Chaturvedi , Chaukamba Prakashan Varanasi , revised editon 2008, p 71 Sutra sthan Sloka no 1.
10. Sushruta Samhitab Commentory by Kavi raja Dr Ambika dutta Shastri Chaukamba Prakashana Varanashi revised edition 2009 p 53 Uttar Tantra 9 Sloka 22
11. Sushruta Samhitab Commentory by Kavi raja Dr Ambika dutta Shastri Chaukamba Prakashana Varanashi revised edition 2009 p 53 Uttar Tantra 9 Sloka 22
12. Sushruta Samhitab Commentory by Kavi raja Dr Ambika dutta Shastri Chaukamba Prakashana Varanashi revised edition 2009 p 94 Uttar Tantra 18 Sloka 17.