

Computer vision syndrome: A holistic approach through Trataka Yoga

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Abstract

We all belong to a fully civilized and modernized scientific era, in which people are running behind high technology. Every simple thing is getting replaced by scientific equipment; in fact, people are too getting replaced with gadgets due to social networking sites and all. Furthermore, at every workplace - schools, colleges, institutions, and companies, today paperwork is getting replaced by computer work. Due to relentless use of video display terminal/computer screen, people are facing a sort of occupational disorder, i.e., computer vision syndrome. The most common symptoms associated are eye strain, headache, blurred vision, dry eyes, and neck and shoulder pain. Treatment modalities encompass only measures such as cutting glare, giving break to eyes, or using anti-glare glasses. Certain exercises are also recommended for eye. Here, *Trataka Yoga* among various yogic practices can be implemented for more desirable results.

Key words: Computer vision syndrome, *Trataka Yoga*, Yogic exercises

INTRODUCTION

The human eyes were designed for mostly distant work, and we sailed through centuries with minimal difficulties. The transformation from hunting in open to working on paper was very slow and gradual and thus did not put much stress on the eyes. However, the shift from paper to computers has been so rapid and strong that the eyes did not get adequate time to get adapted to the new demands to work at near in a new visually stressful environment for extensive hours, and result is the widespread newly uprising disease of the millennium - computer vision syndrome (CVS). Computer users who use a computer daily for more than 4 h are more likely subjected to the risks of these four health disorders: Carpal tunnel syndrome, stress, CVS, and neck and shoulder problems.^[1] At present, a large number of computer users suffer from CVS.^[2] With more and more of us using a computer at work, CVS is becoming a major public health issue. Prevalence of CVS ranges from 64% to 90% among computer users.^[3] Nearly 60 million people suffer from CVS globally, and million new cases of CVS occur each year.^[4] In USA, more than 143 million Americans work on computer each day with an estimated 90%

suffering from computer eyestrain. In addition, almost 90% of children in the USA work on computer at home or in school every day.^[5] One survey on CVS was held in Jamnagar (India), in which a total of 1205 computer professionals were surveyed. Among them, 485 peoples were having the symptoms of CVS which means 40.24% of total surveyed population have shown the prevalence of CVS in Jamnagar.^[6] A pilot survey conducted in the metropolitan cities of India revealed the incidence of CVS in as much as 70% of computer users.^[7]

DISEASE REVIEW

CVS was defined as the combination of eye and vision problems associated with the use of computers.^[8] The American Optometric Association (AOA) defines CVS as "A complex of eye and vision problems related to near work which are experienced during or related to computer use." The chief source of the problem lies in it being a repetitive

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stress injury to the visual system which means, rectifying the source of stress is overlooked, and the negligence could cost one's career and upset the health.^[9] The most common symptoms associated with CVS are – eyestrain, headache and blurred vision, burning sensation in eyes, dry eyes, and neck and shoulder pain. These symptoms are caused by poor lighting, glare on a digital screen, improper viewing distances, poor seating posture, uncorrected vision problems,

and a combination of these factors.^[10] The AOA reports that a survey of optometrists found that approximately 10 million eye exams are performed annually in the United States due to vision problems related to computer use.^[11] Treatment does not involve any therapeutic measure, but eye care (using anti-glare eyeglasses and contact lenses), proper position of computer screen, seating position, rest breaks, and blinking are advised.^[12]

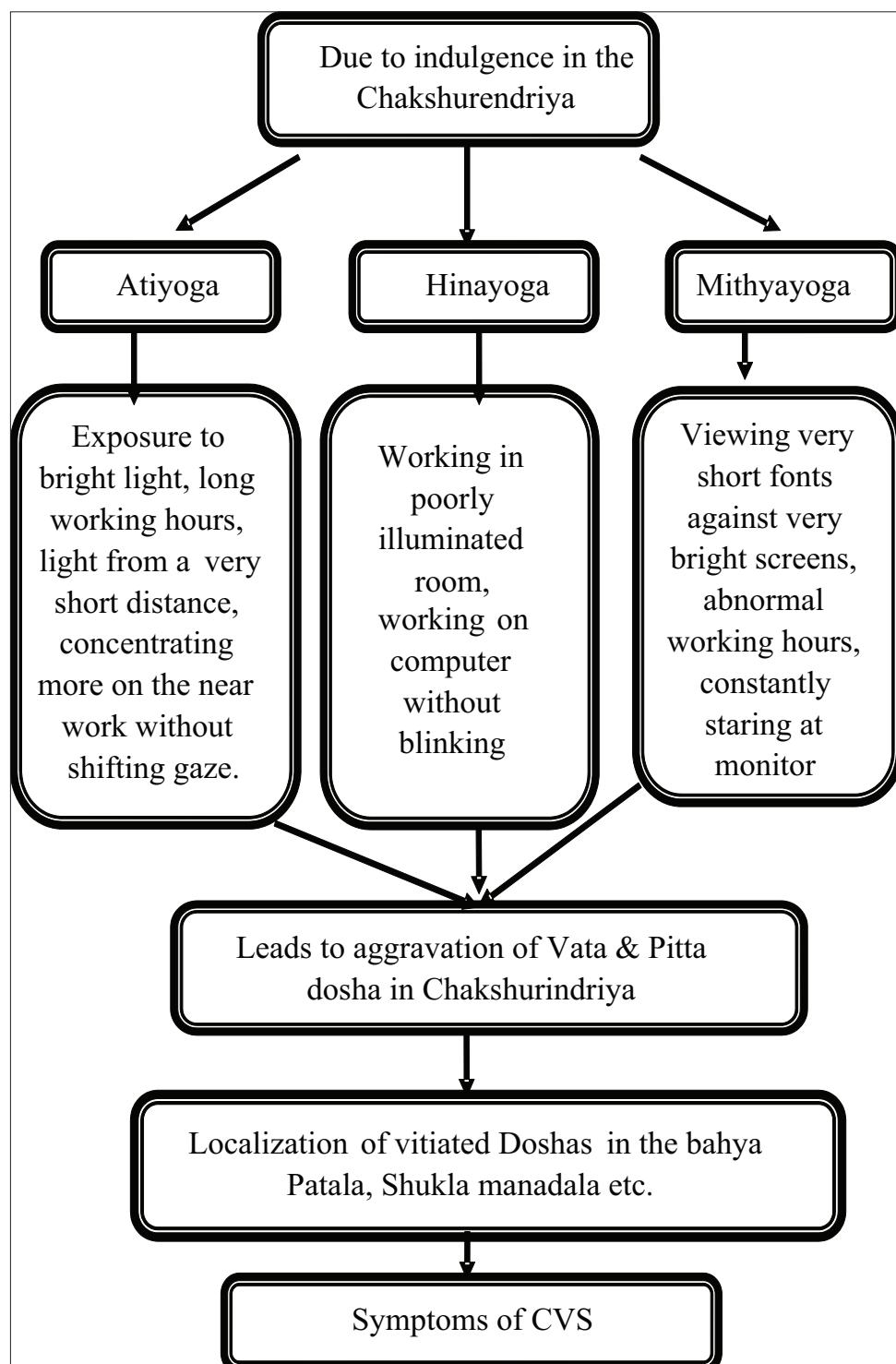


Figure 1: Overall samprapti of computer vision syndrome can be formulated as shown in the chart

AYURVEDIC REVIEW

CVS has not been mentioned anywhere in Ayurvedic texts, but *Acharya Charaka* has kept the doors open to include the upcoming health problems. In *Charaka Samhita*, clear guidelines for identification as well as treatment of the diseases which are not mentioned in the texts are given.^[13] Acharya Vaghbata in their text mentioned cooling and rejuvenating therapies for eyes affected by bright light, high-voltage electric spark, and heat exposure.^[14,15] This reflects that our Acharyas might have seen some problems in eyes due to spark or light sources other than computers that is why they gave their treatment. 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.^[16] *Acharya Charaka* described *Asatmyaindriyarth Samyog* (improper use of sense organs), i.e., *Atiyoga* (excessive use), *Heenayoga* (less use), and *Mithya yoga* (wrong use) as the foremost cause of any disease.^[17] Here, excessive use of *Chakshuindriya* (eyes) – spending long hours on computers; less use of *Chakshuindriya* – working on computers without blinking; and wrong use of *Chakshuindriya* – seeing continuous changes in brightness of screen, seeing small fonts, etc. All these factors together lead to aggravation of Vata-Pitta Doshas that follow localization in the *Bahya Patala* (cornea and sclera) and produce symptoms of CVS (Figure 1).

Trataka Yoga

Yoga is an ancient Indian science which includes the practice of specific postures, cleansing practices, regulated breathing, and meditation for empowering health in a holistic way.^[18] *Yoga* is a great preventive and promotive remedy for the betterment of eyes and also for treating various optic problems.^[19] *Trataka yoga* is one among the shatkarmas mentioned in yogic practices.^[20] *Trataka* is recounted in various treatises such as *Hatha Yoga Pradipika* and *Gheranda Samhita*. *Trataka* means to gaze steadily. There are two forms of practice, one is *Bahiranga* or external *Trataka*, and the other is *Antaranga* or internal *Trataka*. In *Bahiranga*, a person has to gaze at an object or symbol. In spite, *Antaranga Trataka* involves clear and stable inner visualization of an object.^[21] *Trataka* is being said to eradicate all eye diseases, fatigue, and sloth. Furthermore, it closes the doorway creating all these ailments. It is not only beneficial for eyes but also enhances physiological and mental functions.

DISCUSSION

CVS occurs due to improper use of *Chakshu-indriya* (*Asatmyaindriyarth Samyog* of *Darshanindriya*) causing asthenopic symptoms such as eye strain, dry eyes, burning sensation, and headache. Reason behind all these

symptoms is either tear film instability caused because of continuous exposure of eyes to computer screens and lack of blinking which maintains tear flow, or due to fatigue of extra- and intraocular muscles due to irresistible to-and-fro movements of eyeball while working. As Ayurveda talks about a preventive and curative aspect of every disease. Such that Nidan parivarjan, i.e., avoiding continuous use of screens, etc. In curative part, Vata-Pitta Shamak, Balya, and Rasayana Aushadha – Aahara – Vihara can be prescribed. However, foremost focus should be on the ways that relax ocular muscles and nourishes the eye. *Trataka* is a sort of non-pharmacological way which is supposed to increase functional efficiency of ocular muscles by forcing them to work and enhance the metabolism of rods and cones through the mechanism of dark and light adaptation.^[22] Hence, studies show that if this can work in refractive errors than definitely it can yield best results in CVS also.

CONCLUSION

CVS is a disease of the modern era was not faced by people of ancient times. This disease came into existence with the excessive use of the computers. This disease of modern times can be well dealt with the practices mentioned in ancient times. Moreover, *Trataka yoga* can be the best way to deal with CVS.

REFERENCES

- Ellahia A, Khalilb MS, Akrama F. Computer users at risk: Health disorders associated with prolonged computer use. Dep E3 J Bus Manage Econ 2011;2:171-82. Available from: <http://www.e3journals.org/JBME>. [Last retrieved on 2017 Jan 23].
- Ihemedu CO, Omolase CO. The level of awareness and utilization of computer shields among computer users in a Nigerian community. Asian J Med Sci 2010;49-52.
- Sen A, Richardson S. A study of computer-related upper limb discomfort and computer vision syndrome. J Hum Ergol (Tokyo) 2007;36:45-50.
- Torrey J. Understanding computer vision syndrome. Employ Relat Today 2003;30:45-51.
- Hayes JR, Sheedy JE, Stelmack JA, Heaney CA. Computer use, symptoms, and quality of life. Optom Vis Sci 2007;84:738-44.
- Sen A, Richardson S. A study of computer-related upper limb discomfort and computer vision syndrome. J Hum Ergol (Tokyo) 2007;36:45-50.
- Vision in Business - EHS Today. Available from: http://www.ehstoday.com/site-files/ehstoday.com/files/archive/ehstoday.com/ppe/Essilor_Vision-in-Business-Study.pdf. [Last retrieved on 2017 Jan 26].
- Pilot Survey-Survey Was Conducted in Jamnagar by Dr. Gangamma M.P., M.S.(Ayu), Ph.D. Scholar in 2007-2008, Under Guidance of

- Dr. Manjusha R., M.D.(Ayu), Ph.D., Reader in P.G. Department of Shalakya Tantra, IPGT & RA, Jamnagar.
9. Pilot Survey-2001: A Pilot Survey was Conducted in Metropolitan Cities of India by Dr. Chandrasekhar M.S., P.G. Scholar Under Guidance of Dr. B.A. Venkatesh M.D. (Ayu) Professor and Head, Department of P.G studies in Shalakya Tantra. Bangalore: GAMC.
 10. Rosenfield M. Computer vision syndrome: A review of ocular causes and potential treatments. *Ophthalmic Physiol Opt* 2011;31:502-15.
 11. Computer Vision Syndrome. (American Optometric Association). Available from: <http://www.aoa.org/patients-and-public/caring-for-your-vision/protecting-your-vision/computer-vision-syndrome?ssot=y>. [Last retrieved on 2017 Jan 23].
 12. Computer Vision Syndrome (American Optometric Association). Available from: <http://www.aoa.org/x5374.xml>. [Last retrieved on 2017 Jan 23].
 13. Vaidya Jadavaji Trikamaji Acharya, editor. Agnivesh-Charaka Samhita, Revised by Charaka and Dridhbala with 'Ayurveda Dipika' Commentary, by Chakrapanidatta. Sutrasthana 18/44-47. Varanasi: Chaukhambha; 2011.
 14. Vaghbata. Asthang Samgrah with Sashilekha Commentary of Indu. Uttar Tantra, 16/28. Varanasi: Chaukhamba Sanskrita Series; 2006. p. 712.
 15. Vaghbata. Asthang Hridaya with Sarwangsundari Commentary of Arun Dutt and Ayurved Rasayana Commentary of Hemadri, Uttar Sthana, 13/9,7. Varanasi: Chaukhamba Sanskrit Series; 2002. p. 825.
 16. Singh DK, Kumar AD, Kumar SS. Clinical efficacy of Ayurvedic management in computer vision syndrome: A pilot study. *Ayu* 2012;33(3):391-5.
 17. Vaidya Jadavaji Trikamaji Acharya, editor. Agnivesh- Charaka Samhita. Revised by Charaka and Dridhbala with 'Ayurveda Dipika' commentary, by Chakrapanidatta. Sutrasthana 11/36. Varanasi: Chaukhambha; 2011.
 18. Visweswaraiyah NK, Telles S. Randomized trial of yoga as a complementary therapy for pulmonary tuberculosis. *Respirology* 2004;9:96-101.
 19. Available from: http://www.indianetzone.com/42/yoga_eyes.htm. [Last retrieved on 2017 Jan 23].
 20. Sigh P. Hatha Yoga Pradipika. 1st ed. Ch. 2. New Delhi: Munshiram Manoharlal Publishers; 2007.
 21. Muktidobhananada S. Hatha Yoga Pradipika. 3rd ed. Ch. 2, 31. Bihar: Yoga Publication Trust; 1998.
 22. Gopinathan G, Dhiman KS, Manjusha R. A clinical study to evaluate the efficacy of Trataka Yoga Kriya and eye exercises (non-pharmacological methods) in the management of Timira (Ammetropia and Presbyopia). *Ayu* 2012;33:543-6.

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