

Computer Vision Syndrome and Scope of Homoeopathy

Dr. Surya Kiran Mallula¹, Janagama Sravanthi²

¹Assistant Professor, Department of Paediatrics, MNR Homoeopathic Medical College, Sangareddy, Telangana state

²Intern, MNR Homoeopathic Medical College, Sangareddy, Telangana state

Corresponding Author: Dr. Surya Kiran Mallula

DOI: <https://doi.org/10.52403/ijrr.20230868>

ABSTRACT

The utilization of technology has become a fundamental part of our daily lives. Therefore, regardless of whether one is an adult or a child, there are various motivations for individuals to remain attached to their digital devices. As the utilization of computers and video display terminals in the workplace increases, a growing number of individuals are experiencing symptoms associated with prolonged use of computers. These symptoms encompass visual and eye symptoms, as well as musculoskeletal symptoms, and are collectively referred to as Computer Vision Syndrome (CVS). There are a variety of allopathic treatments available, however, they are limited in their long-term use and associated side effects. Establishing an ergonomically designed work environment is an important factor in reducing the risk of developing CVS symptoms, and alternative treatments may be appropriate depending on the underlying causes of CVS and associated symptoms. Homeopathy is an alternative system of medicine that allow the court to choose the indicated homoeopathic medicine for management of computer vision syndrome.

Keywords: Homeopathy, computer vision syndrome (CVS), Digital eyestrain (DES), Video display terminals (VDTs),

INTRODUCTION

Computer vision syndrome (CVS) is defined as “a complex of eye and vision problems related to near work experienced during computer use.” Visual fatigue (VF)

and digital eye strain (DES)^[1] terms are also used for CVS, reflecting the different digital devices related to potential problems. The introduction of computer no doubts has revolutionized and benefited the society; however, it does associate with health-related problems. Musculoskeletal related complaints such as tingling and numbness of the fingers, cervical stiffness and backache are well known to be associated with prolonged usage of computer.^[1] More recently, visual and ocular problems are reported as the most frequently occurring.^[1,2]

PREVALANCE:⁽⁴⁾

The children are particularly vulnerable to CVS due to the delayed diagnosis process, as they may not develop symptoms until they are adults. Previous research has indicated that CVS prevalence among computer users ranges from 64% to 90%. It is estimated that there are approximately 60 million people suffering from CVS worldwide, with approximately 1 million new cases occurring annually. Approximately 70% of global computer users report having vision issues, and the number of individuals affected is on the rise.

RISK FACTORS:⁽³⁾

Many risk factors might contribute to the development and worsening the symptoms of CVS. They Include poor lighting of computer screen(brightness and contrast),

and the brightness in the Working area, continuous blaring of digital screen without blinking the eyes are looking at the Screen without rest, duration of the computer use , improper viewing distances of the screen, Leaning forward close to the device for clear vision and focusing, poor or abnormal sitting position, Improper workstation setup , the blue light emitting from the devices ,uncorrected refractory errors And some drugs that aggravate the symptoms of CVS.^[1-4]

PATHOPHYSIOLOGY:⁽⁶⁾

The symptoms experienced in computer vision syndrome are caused by three potential Mechanisms: (i) Extra ocular mechanism, (ii) accommodative mechanism, (iii) ocular surface Mechanism.

Extra ocular mechanism- causes musculoskeletal symptoms such as neck stiffness, Pain, headache, backache and shoulder pain. These symptoms are well associated with improper Placement of computer screen which led to muscles sprain.

Accommodative mechanism- causes Blurring of vision, double vision, presbyopia, myopia and slowness of focus change. In one study It was reported that a transient myopia was observed in 20% of computer users at the end of their Work shift.^[6] Many people may have slight accommodative problem or binocular problems which do not usually cause symptoms when they are doing ordinary less strenuous visual task, but these Problems are worsen in prolonged period of computer usage.

Ocular surface mechanism- causes Symptoms such as dryness of the eyes, redness, gritty sensation and burning after extended period Of computer usage. These symptoms may be multifactorial, among the common factors found to Be related to dryness and redness of the eyes are cornea dryness, reduction in blink rate, increased

Surface of cornea exposure caused by horizontal gaze at the computer screen, reduction of tear Production due to ageing process contact lens usage, medication such as antihistamines and Systemic medical illnesses such as autoimmune connective tissue disease.^[6,8-11]

CLINICAL FEATURES:

- Extra ocular symptoms - Shoulder pain, neck pain, neck stiffness, headache and backache.
- Visual symptoms - Blurred vision, double vision, presbyopia and slowness of focus change.
- Ocular - Internal symptoms (Asthenopic) - Eye strain, ache in the eye, ache around the eyes, tired eyes and sore eyes.
- Ocular - External symptoms - Burning, dryness, redness, gritty sensation, tearing and irritation.

The symptoms reported in children with a prolonged history of screen exposure include reduced attention span, poor behavior, irritability, dry eyes, ocular irritation, eye strain, headache, neck pain and shoulder pain.

DIAGNOSIS

In clinical settings, CVS is diagnosed by comprehensive eye examination. Patients are asked for their general health history, drug use, and environmental factors to confirm the symptoms are only due to computer use. Visual acuity management is then performed to evaluate the visual impairment. Eye refractive errors (hypermetropia, astigmatism) are checked to determine if correction of clear vision is necessary. Significant aqueous deficiency is assessed with basal or Schirmer test (objective measure of lacrimal secondary capacity). For symptomatology, the optometrists use the CVS-Q (Computer Visual Syndrome Questionnaire) which is a validated instrument that has good psychometric properties to measure the CVS in workers exposed to VDTs⁽¹⁰⁻¹²⁾. The results of the eye examination are used

to exclude eye pathologies that mimic CVS and to confirm the diagnosis:⁽¹⁻⁶⁾

MANAGEMENT:

Prevention is the first line of defense against computer vision syndrome. Alterations in working environment ergonomics, patient education and eye care are essential for managing the syndrome [1]. Eliminating the cause of the symptoms is the most important approach to the management of computer vision syndrome. Many of the symptoms of computer vision syndrome are preventable at the workplace ^(1,2,5-8).

HOMOEOPATHIC THERAPEUTICS: (13-15)

Ruta: Ruta is a plant extract derived from the Rutaceae natural order, Rutaceae, which is commonly referred to as Rue. It is highly effective in treating eye strain and fatigue associated with computer vision syndrome. Symptoms of eye strain may include aching in the eyes, dullness or weakness of sight, blurred vision, irritation in the eyes with tears, pressure deep in the eyes, burning sensation in the eyes, and headaches.

Picric acid: eye dryness, tingling, smarting, aggravated by constant use and light. Sand in eyes, sharp pain, burning, tears on waking up and for an hour. Sticky eyes in the morning, pressure over eyes, aggravated by studying and moving, ameliorated by sitting. Eye symptoms aggravated by artificial light. Acrid, thick stuff in corners in the morning. Need to bring objects near eyes to see. Everything blurred as if looking through fog. Brain fag of writers or entrepreneurs. The slightest excitement or mental strain, or overwork, causes headache.

Euphrasia: Eyes are highly sensitive to light and candlelight. Symptoms include dry pressure in the eyes, as if one is asleep. Frequent burning in the eyes, accompanied by frequent blinking. Acrid water flowing from the eyes. Sensation of dust or sand in the eyes, similar to the feeling of having a

hair hanging over one's eyes and needing to be wiped away. Eye pressure when looking at the light. Severe pressure and burning in the left eye (lachrymation), with the left eye appearing smaller and weaker.

Senega: Eye aches over the orbits. Shivering and wateriness of the eyes when looking at an object closely or continuously. Weakness and watery eyes when reading. Pressure and pressure in the eyeballs, with reduced visual acuity. Weakness of vision and flickering in front of the eyes when reading; must wipe them frequently. When walking towards the setting sun, it appeared to be a smaller sun under the first one, becoming a somewhat oval shape as one looked down, disappearing as one bent the head backward and closing the eyes; double vision relieved by bending the head backward. Hard mucus hanging from the cilia, wrinkling the conjunctiva as if soap had been placed in it. Blepharitis in the morning, lids may stick so tightly after sleep that it is difficult to separate them.

Gelsemium: In computer vision syndrome, gelsemium can be beneficial in the management of symptoms of double vision. This condition is most commonly experienced when looking sideways, and is accompanied by a feeling of heaviness in the eyes. Additionally, the eyes may experience aching pain and redness, as well as a smoky appearance before the eyes with pain above. Asthenopic symptoms are not present, but are characterized by a high level of irritation of the eye due to a lack of toning or energy in the muscles, which is more of a passive than an active form of asthenosis. The eyes may also become tender in the evening and become sensitive to light. Additionally, the eyelids may appear full and crowded.

Duboisinum: Dryness of mucous membranes is very typical. Cool feeling in the eyes. Cool. Sharp pain in the upper part of the eyeball. Eyes are tired. Reduced accommodation. Glasses allow you to read

at a normal distance, but the eyes are strained when using it.

Arsenicum album: is characterized by severe eyelid dryness, particularly in the outermost layers, and on reading in the presence of light (such as a candle). Artificial light can also cause eyelid dryness. The eyelids can also close sporadically, sometimes due to the influence of light. Additionally, the eyes may experience burning, pain, and discomfort from light, as well as from movement, which may be accompanied by a need to lie down or with an intense pain that does not allow for rest in bed. The eyes may become inflamed and reddened, with redness in the conjunctiva.

Physostigma: Photophobia is chief symptom. Constriction of pupils. Twitching of the ocular muscles. Dull discomfort above and between the eyes. The eyes are feeble. Vision acuity. Pain after using the eyes, flashes of light, twitching of the eyelids and around the eyes. Myopia. Lachrymation abounds. Ciliary muscular spasms with irritation after utilizing the eyes. Myopia is worsening.

Kali phos: Eyes- loss of visual acuity due to exhaustion, drooping of eyelids. Occipital headaches; improve upon waking; dizziness from lying down, standing up, sitting, and looking upwards; headache of students and those exhausted by fatigue; headaches are alleviated by gentle movement; headache, with tired, empty, and drained stomach sensation.

CONCLUSION

People of all ages are suffering from computer vision syndrome. The main risk factor for the development of this illness is the use of video display terminals. The public has to be educated and made aware of the risk concerns and ergonomic guidelines for using cellphones, laptops, televisions, and other video display terminals. Additionally, using a

homoeopathic similimum in accordance with all of the symptom's aids in both symptom relief and the treatment of the ailment.

Declaration by Authors

Acknowledgement: None

Source of Funding: None

Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Griffiths KL, Mackey MG, Adamson BJ. The impact of a computerized work Environment on professional occupational groups and behavioural and physiological Risk factors for musculoskeletal symptoms: a literature review. *J Occup Rehabil.* 2007;17(4):743–65. <https://pubmed.ncbi.nlm.nih.gov/17987369>
2. Collin MJ, Brown B, Bowman KJ. Australia: 1988. Visual discomfort and VDTs. *National Occupational Health and Sahttps://. 1–37. [Google Scholar] https://scholar.google.com/scholar*
3. Clayton Blehm, Seema Vishnu, Ashbala Khattak, Shrabanee Mitra, Richard W Yee. Computer Vision Syndrome: A Review. 2005. [https://www.surveyophthalmol.com/article/S0039-625Computer vision syndrome \(CVS\). American Optometric Association. http://www.aoa.org/x5374.xml](https://www.surveyophthalmol.com/article/S0039-625Computer%20vision%20syndrome%20(CVS).%20American%20Optometric%20Association.%20http://www.aoa.org/x5374.xml)
4. Bergqvist UO, Knave BG. Eye discomfort and work with visual display terminals. *Scand J Work Environ Health.* 1994;20(1):27–33. [PubMed] [Google Scholar] <https://pubmed.ncbi.nlm.nih.gov/8016596>
5. Blehm C, Vishnu S, Khattak A. et al. Computer vision syndrome: a review. *Surv Ophthalmol.* 2005;50(3):253–6. [PubMed] [GoogleScholar] https://scholar.google.com/scholar_
6. Collins MJ, Brown B, Bowman KJ, Carkeet A. Symptoms associated with VDT use. *Clin Exp Optom.* 1990; 73:111–18. [Google Scholar] https://scholar.google.com/scholar_
7. Rosner M, Belkin M. Video display units and visual function. *Survey Ophthal.* 1989;33(6):515–22. [PubMed] [Google Scholar] <https://pubmed.ncbi.nlm.nih.gov/2658174>

8. Briggs R. In: 4th. Clayton GD, Clayton FE, editors. Vol. 1 John Wiley & Sons; 1991. Safety and Health effects of visual display terminals. Patty's Industrial Hygiene and Toxicology. [Google Scholar]. <http://www.aoa.org/x5380.xml>
 9. González-Pérez M, Susi R, Barrio A, Antona B. Five levels of performance and two Subscales identified in the computer-vision symptom scale (CVSS17) by Rasch, factor, and Discriminant analysis. 2018. Doi: 10.1371/journal.pone.0202173
 10. Yaginuma Y, Yamada H, Nagai H. Study of the relationship between lacrimation and blink in VDT work. *Ergonomics*. 1990;33(6):799–809. [PubMed][GoogleScholar]<https://pubmed.ncbi.nlm.nih.gov/2226421>
 11. Azurin D, Versaci A. Eyelid Reconstruction. *Plastic Surgery Secrets Plus*. 2010, 388-394.
 12. Gupta S. Computer Vision Syndrome | National Health Portal of India [Internet]. Nhp.gov.in. 2016.
 13. Boericke William. Pocket Manual Of Homoeopathic Materia Medica Comprising was developed to Measure computer vision syndrome at the workplace. *Journal of Clinical Epidemiology*. 2015; 68(6):662-673.
 14. “A Guide To The Twelve Tissue Remedies Of Biochemistry” by E. P. Anshutz. <http://www.homeoint.org/site/ahmad/schuesler.htm>. The Characteristic And Guiding Symptom Of All Remedies.
 15. Farrington E.A. Comparative Materia Medica.
- How to cite this article: Surya Kiran Mallula, Janagama Sravanthi. Computer vision syndrome and scope of homoeopathy. *International Journal of Research and Review*. 2023; 10(8): 523-527. DOI: <https://doi.org/10.52403/ijrr.20230868>
