

Conceptual study of Goghrita Eye drops (Aschyotana) in Computer Vision Syndrome.

Santosh.S.Mulik¹ and Dilip P.Bhusari²

¹Assistant Professor,
Bharati Vidyapeeth Deemed University,
College Of Ayurved, Pune 43 (India)

²Assistant Professor,
Ashtang Ayurved Mahavidyalaya, Pune.

ABSTRACT: According to the National Institute of occupational safety and health, Computer vision syndrome (C V S) affects 90% of the people who spend 3 hours or more a day at computer .With the advent of computer , users confront new challenges both at their work place and school systems. Computer is a heat factory. By working for long hours using a computer monitor, a complication of vision and ophthalmic symptoms may develop. They are collectively known as *Computer Vision Syndrome*. Lubricating drops can reduce the effects of dry eye in computer vision syndrome. But its preservatives are harmful to eye. So long term use is not possible and effects of lubricating drops are temporary. A recent study in Japan revealed that the majority of lubricating eye drop users were dissatisfied with the therapeutic effects. C V S syndrome includes burning sensation ,dryness, redness and itching in eyes..These symptoms related to Netradaha, Netrarukshtava, Netralalima, Netrakandu in Ayurveda.Goghrita is Snehonattam. It is Rasayana And Chakshushya .It has properties of Snigdha, Guru and Mrudu.Because of these properties Goghrita is very useful for vitiated pitta and vatta dosha in CVS . It has lubricating properties which may be useful in reducing the symptoms of computer vision syndrome. It contains vitamin A 3500/100gm, beta-carotene and Vit E. Vitamin A keeps the outer lining of eye ball moist and prevent blindness. Beta-carotene and Vit E which are well known antioxidants.

So Goghrita Eye drops (Aschyotana) can be used as alternative treatment in CVS.

Keywords : Computer Vision Syndrome , Goghrita, Aschyotana, Eye drops

INTRODUCTION

Twenty years ago, the advent of computers revolutionized the workplace. Until that time, office work had involved a range of activities including typing, filing,

reading, and writing. Each activity was adequately varied in the requirements of posture and vision, posing a natural “break” from the previous activity. The introduction of computers, however, has combined these tasks to where most can be

performed without moving from the desktop, thereby improving quality, production, and efficiency. In fact, it is estimated that the 75% of all jobs in the year 2000 involved computer usage. (Costanza, 1994) The popularity and affordability of personal computers with internet capabilities at home has introduced even more computer users.

With the advent of computer, users confront with new challenges both at their work place and school systems. By working for long hours, using a computer monitor, a complication of vision and ophthalmic symptoms may develop. They are collectively known as *Computer Vision Syndrome (CVS)*.

Close to 150 million people sit in front of a computer monitor each day. Many of them spend more than two hours at a time, focusing on screens as they complete work projects, blog, or just surf the web. If a significant portion of your day involves computer time, you may be at the risk of CVS-Computer Vision Syndrome too. According to Jeffrey Anshel, an information has taken toll on our eyesight.

According to National Institute Occupational Safety and Health, computer vision syndrome affects some 90% of the people who spend three or more hours a

day on a computer. (Melinda, August 2010):

Lubricating drops can reduce the effects of dry eye in computer vision syndrome. But its preservatives are harmful to eye. So long term use is not possible and effects of artificial drops are temporary. A recent study in Japan revealed that the majority of lubricating eye drop users were dissatisfied with the therapeutic effects. (Shimmura, 1999).

These limitations make us think about effective and alternative treatment for Computer vision syndrome. So this topic has been chosen for literary study.

Shushkakshipak is somewhat related to the Computer Vision syndrome in modern science. Pradhadosha present in Shushkakshipak is Pitta & Vata. (Sharma, 2005, p.137).

As per Ayurvedic classics, Goghrita has properties as Snigdha, Guru, oiliness, Mrudu & thus pacifying the Pitta and Vatadosha. (Tripathi, 1999, p. 264-265). It has lubricating properties which may be very useful in computer vision syndrome.

COMPUTER VISION SYNDROME

Computers are now an integral part of our day.

This advancement of science has brought about a vast change in our lives

that we wonder what life would have been without it!

With all its benefits come certain health related issues, awareness of which is minimal.

The eyes respond well to most printed material. Most text consists of bold, black letters on a bright, white background. The eyes can easily focus on images with well-defined edges that are strongly contrasted against their backgrounds. However, words and images on a computer screen do not have well-defined edges. Characters displayed on a computer screen are made up of several small dots, or pixels. The eyes cannot easily focus on pixels, so they must work harder to see the computer screen clearly. The constant struggle to focus leads to fatigue and tired, burning eyes. Many people try to compensate for uncomfortable vision symptoms by leaning forward or by tipping their head to look through the bottom portion of their glasses. These actions can result in a sore neck, sore shoulders and a sore back.

The human eye was designed for more of distance work and we sailed through centuries with minimal difficulties as the eyes could adapt to the changes in our near tasks.

But the shift from PAPER to COMPUTERS has been so rapid and

strong that the eye has not adapted to the new demands put on it to work at NEAR in a new visual environment for extensive hours and in stressful environments.

Tears are constantly secreted in our eyes to keep the front surface of the eye wet. This wetness of front surface is absolutely essential for clear and comfortable vision. If there is tear deficiency, it will cause dry eyes and lead to CVS. Also due to extreme concentration, the blinking rate usually decreases.

Computer vision syndrome (CVS) is condition resulting from focusing the eyes on a computer display for protracted, uninterrupted periods of time. Common symptoms of CVS include headache, blurred vision, neck pain, redness in the eyes, fatigue, eye strain, dry eyes, irritated eyes, double vision, and difficulty refocusing the eyes. These symptoms can be further aggravated by improper lighting conditions.

Treatment- One of the most simple and therapeutic modes of therapy are lubricating eye drops intended to relieve the symptoms of dry eyes due to decreased blink rates. Abelson states, "An over-the-counter tear substitute can periodically rewet the ocular surface, contribute to tear volume, and maintain the proper balance of salts and acidity while viewing a terminal." It is important, though, to find

the proper lubricating drop for the computer user. Another study indicates that higher viscosity eye drops may be more beneficial than balanced salt solutions. Although the higher viscosity drops did not vary blink rates, they normalized the interblink interval and relieved ocular discomfort more efficiently than balanced salt solutions following computer use. Unfortunately, these more viscous eye drops also cause a decrease in overall visual acuity

Common artificial tears are carboxy methyl cellulose and hydroxyl propyl cellulose.

They contain water, salts and polymers but lack the proteins found in natural tears.

Possible of adverse effects of carboxymethyl cellulose and other similar lubricants include eye pain, irritation, continued redness, or vision changes. Use should be discontinued if any of them occur. Those of hydroxypropyl cellulose include hyperemia, photophobia, stickiness of eyelashes, discomfort, and irritation. Long term use of preservatives present in some lubricating drops tears may harm the eye.

GOGHRITA-

The Godugdha is considered to possess the essence or sap of all plants and Goghrita is the essence of Godugdha. When we consider Goghrita we are in the

company of superlatives. In India, Goghrita has been so highly regarded for so many things.

As per (Ayurvedic Pharmacopia, Part-1 Vol-IV) Ayurveda properties of Goghrita are as follows-

Rasa : Madhura
Guna : Guru, Snigdha, Mirdu
Veerya : Seeta
Vipaka : Madhura
Karma : Agnideepana,
Anubhisyyandi, Ayushya, Balya,
Chuakshushya, Deepana, Hridya,
Kaantiprada, Medhya, Ojovardhaka,
Rasayana, Ruchya,
Shleshmavardhana, *Snehana*,
Shukravardhaka, Tejobalakara,
Tvachya, *Vatapittaprashamana*,
Vayaasthapna, Vishahara, Vrisya

Ghrita, Taila, Vasa & Majja are useful for snehan. But Ghrita is best between all of them. (Sharma, 1996, p.162).

According to Acharya Charak, Goghrita is vattaghana and pittaghana. It is Rasa, Shukra and Ojhavruddhikar. Goghrita is Mrudukar, Swaravarnaprasadan and Balvardanam. (Tripathi, 1999, p. 264-265).

Physicochemical Characteristics of Goghrita

Chemically, Goghrita is a complex lipid of glycerides (usually mixed), free

fatty acids, phospholipids, sterols, sterol esters, fat soluble vitamins, carbonyls, hydrocarbons, carotenoids, small amounts of charred casein and traces of calcium, phosphorus, iron, etc. It contains not more than 0.3% moisture. Glycerides constitute about 98% of the total material. Of the remaining constituents of about 2%, sterols (mostly cholesterol) occur to the extent of about 0.5%. As Goghrita contains 98% glycerides, it has lubricating properties which is mainstay of computer vision treatment. It contains vitamin A 3500/100gm. It also contains beta-carotene and Vit E.

Discussion

Computer is a heat factory. It radiates heat which causes bad effects on eyes. Computer vision syndrome includes burning sensation, dryness, redness, itching in eyes. These symptoms are related to Netradaha, Netrarukshatva, Netralalima and Netrakandu in Ayurveda. These are the lakshana of vitiated pitta and vattadosha.

Goghrita is Snehottam i.e. most important drug in snehakarma. It is Rasayan & chakshushya. It has properties of Snigdha, Guru and mrudu. Because of these properties Goghrita may be very useful for vitiated pitta and vatta dosha in computer vision syndrome.

According to Dairy Science, Goghrita contains 98% glycerides. It has lubricating properties which is mainstay of computer vision treatment. It contains vitamin A 3500/100gm. Vitamin A keeps the outer lining of eye ball moist and prevent blindness. Goghrita also contains beta-carotene and Vit E which are well known antioxidants.

In Ayurveda, Aschyotana (eye drops) has been described in detail. In Aschyotana Procedure, Acharya has described use of snigdha and madhurasatmakadravya in VatapittajanyaVyadhi. Goghrita is vatapittaghna, Chakshushya and having properties of snigdha guna. It is easily available.

So Goghrita can be used for Aschyotana (eye drops). Goghrita is semisolid at room temperature. So for liquification we can put it in warm water before use. Aschyotanavidhi is contraindicated at night time. But if we use Goghrita in a daytime Goghrita can form a thin layer over eye which can cause blurred vision throughout day. So that Goghrita eye drops (Aschyotana) can be done in evening time after day work.

Goghrita is a self-preservative. It becomes very useful as old as it is. So there is no issue of preservation.

Goghrita is very commonly used for tarpan procedure in Ayurveda. In Netra

Tarpan, a small dam is built around the eyes and filled with warm Ghee. But there are some contraindications for Netratarpan. There are no such contraindications for Aschyotan. For patients, Netra Tarpan is difficult to perform in home. So regular follow up in hospital is required. This becomes difficult for computer professionals to manage time in their hectic schedule. Aschyotan is simple to perform at home. So hospital follow up is not necessary. These are the advantages of aschyotan over tarpan. So that Goghrita eye drops (Aschyotana) can be used in computer users on daily basis.

Conclusion

1. Goghrita is Snehottam , Rasayan & chakshushya . It has properties of Snigdha ,Guru and Mrudu. Because of these properties, Goghrita may be very

useful for vitiated pitta and vatta dosha in computer vision syndrome.

2. Goghrita is a self-preservative . It becomes very useful as old as it is . So there is no issue of preservation.
3. As Goghrita contains 98% glycerides & some fatty acids, it has lubricating properties which is mainstay of computer vision treatment.
4. It contains vitamin A 3500/100gm, beta-carotene and Vit E. Vitamin A keeps the outer lining of eye ball moist and prevent blindness. Beta-carotene and Vit E which are well known antioxidants.
5. Eye drops (aschyotan) is easy to perform & takes less time as compared to other Kriyakalpas.
6. So Goghrita eye drops (aschyotan) may become effective treatment for Computer vision syndrome.

References

- Costanza, M.A. (1994). Visual and ocular symptoms related to the use of video display terminals, *J Behav Optom*, 5, 31–36.
- Melinda, Beck. (2010, August 17). Becoming a squinter nation, *Wall St. Journal*.
- Shimmura, S. J. Shimazaki, K. Tsubota. (1999). Results of a population-based questionnaire on the symptoms and lifestyles associated with dry eye, *Cornea*, 18, 408–411.
- Sharma, P. V. (Eds.). (1996). *Vagbhata, Ashtang Hridaya, Sutra Sthana, Snehavidhi Adhyaya, 16/2* (2nd ed.). Varanashi: Chaukhamba Orientalia.
- Sharma, P. V. (Eds.). (2005). *Sushruta, Sushruta Samhita, Uttartantra, Sarvagatarogvidnyaniya Adhyaya, 16/26*, (Reprint edition), Varanashi : Chaukhamba Viswabharati Prakashan.
- Tripathi , Brahmanand. (Eds.). (1999). *Agnivesha, Charak, Dridhabala, Charak Samhita, Sutra Sthan, Snehadhyaya, 13/14,15*, (6th ed.), Varanashi : Chaukhamba Surbharati Prakashan.