



A CLINICAL STUDY ON COMPUTER VISION SYNDROME WITH LOCAL APPLICATION OF CORE OF THE KUMARI LEAF AND GOGHRITPANA

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ABSTRACT

Introduction: The fatigue experienced by the eyes and related complex of symptoms like headache, blurred vision, dryness, redness, fatigue, irritation, watering in the eyes, vertigo, diplopia etc. is termed as Computer Vision Syndrome.

The symptoms of Computer Vision Syndrome can be correlated with the Shushkakshipaka Vyadhi mentioned under Sarvagata Netra Roga by Acharya Sushruta. Local application of core of the Kumari leaf over both the eyes and Goghritapana can be the effective treatment of C.V.S. Kumari is one of the Chakshushya Dravya and mentioned by Acharya Bhavamishra in Bhavaprakasha Ghritapana will act systemically by maintaining physiology of the eyes with its Snigdha, Sheeta Gunas which will give local relief quickly. **Materials and Methods:** In this study patients selected having clinical features of Computer Vision Syndrome and using computer more than 4-6 hrs/day and more than 3 month. **Management:** To overcome symptoms of CVS the local application of core of the Kumari leaf over both the eyes and Goghritapana can be the effective treatment. Kumari is one of the Chakshushya Dravya mentioned by Acharya Bhavamishra in Bhavaprakasha Ghritapana, will act systemically by maintaining physiology of the eyes with its Snigdha, Sheeta Gunas which will give local relief quickly. **Results:** Significant results were observed these treatment modalities. **Discussion:** Kumari as one of the Netrya Dravya. Also, Goghrita is beneficial for complete maintenance of physiology of eye with its Snigdha, Madhura Guna hence it is chosen for this study. The Guna Karma of Kumari and Goghrita are Vata-Pitta Shamaka and both having Chakshushya properties. These treatment modalities can be beneficial for those having mild to moderate dryness in the eyes.

KEYWORDS :

INTRODUCTION

Eye is one of the most important sense organ meant for the vision. Overuse of illuminating devices, visual display terminals like mobile phones, laptops, desktops disturbs the normal functioning of the eyes. The fatigue experienced by the eyes and related complex of symptoms like headache, blurred vision, dryness, redness, fatigue, irritation, watering in the eyes, vertigo, diplopia etc. is termed as Computer Vision Syndrome. The symptoms of Computer Vision Syndrome can be correlated with the Shushkakshipaka Vyadhi mentioned under Sarvagata Netra Roga by Acharya Sushruta. Local application of core of the Kumari leaf over both the eyes and Goghritapana can be the effective treatment of C.V.S. Kumari is one of the Chakshushya Dravya and mentioned by Acharya Bhavamishra in Bhavaprakasha Ghritapana will act systemically by maintaining physiology of the eyes with its Snigdha, Sheeta Gunas which will give local relief quickly.

This combination of therapies may reduce the sign and symptoms of Computer Vision Syndrome (C.V.S.) and thus, it can be a good solution for the people experiencing digital eye fatigue due to over exposure to computer screen.

Aim: To study the efficacy of local application of core of Kumari leaf and Goghritapana in the management of Computer Vision Syndrome.

Objectives: To find safe and effective treatment without untoward effect in the management of CVS along with respective ergonomics.

MATERIALS & METHODS:

Study Design: Total 3 patients in OPD of Shalakyatantra, selected on the basis of symptoms of C.V.S. with prior informed consent.

Selection Criteria:

1. The patients between 18 to 50 years of age.
2. Patients using computer more than 4-6 hrs/day and more than 3 month.
3. Patients having clinical features of Computer Vision Syndrome - Dry Eye, Burning Sensation, Redness, Eye Strain.

Exclusion Criteria:

1. Individuals having eye diseases like conjunctivitis, any specific eyelid disorder, Dacryocystitis, Lagophthalmos, Diabetic Retinopathy, Nystagmus, Glaucoma, Corneal diseases, Sjogrens Syndrome, Vitamin A deficiency.
2. Patients suffering from known systemic diseases like HIV, Carcinoma, Bleeding disorders, any other infectious and chronic diseases.
3. Individuals having H/O any eye surgery within last 6 months.

Diagnostic Criteria for Selection of patient:

Subjective Parameters: Table 1

1. Dryness	2. Burning Sensation
•Normal (0): No feeling of dryness	•Normal (0): No burning sensation.
•Mild (+): Occasionally present and very mild feeling of dryness.	•Mild (+): Present but not distressing. i.e. Intermittent / Occasional.
•Moderate (++) : Frequently present moderate feeling of dryness.	•Moderate (++) : Distressing but not with daily life. i.e. on work / Frequently.
•Severe (+++) : Feeling of dryness present, almost all the time and severe.	•Severe (+++) : Very distressing and interfering with daily life. i.e. Continuous / at rest also.

Subjective Parameters: Table 2

3. Redness	4. Eye strain
• Normal (0): No Redness.	• Normal (0): No feeling of eye strain.
• Mild (+): Some vessels are detectible.	•Mild (+): Occasionally present and very mild feeling eye strain.
• Moderate (++) : Individual vessels are detectible/dilation of many blood vessels.	•Moderate (++) : Frequently present moderate feeling of eye strain.
• Severe (+++) : Individual vessels are not easily detectible/redness of entire conjunctiva.	• Severe (+++) : Almost all the time and severe.

Objective Parameters: Schirmer's Test and Tear Film Break up Time: Table 3

Gradation	Schirmer's Test	Gradation	TFBUT
Normal	≥15mm	Normal	15 -35 Sec
Mild	10-15 mm	Mild	10-15 Sec
Moderate	5-10 mm	Moderate	5-10 Sec
Severe	< 5 mm	Severe	< 5 Sec

Patients Details: Table 4

PATIENT	AGE	GENDER	SCREENING EXPOSURE
A	23 Years	M	6 Hours/day for > 3 mths
B	32 Years	F	4 Hours day for > 3 mths
C	36 Years	F	6 Hours day for > 3 mths

Treatment Planned: Local application of core of the Kumari Leaf over both the eyes and Goghritapana was advised and also required modifications in posture and related ergonomics are advised.

Duration: Local application of core of the Kumari Leaf over both the eyes for 10 minutes daily in the morning for 15 days.

Goghrita given for Abhyantar Pana 10 ml for 15 days in the morning along with Koshna jala.

Administration Details: Kumari leaf is washed under tap water. It is peeled and cut from both the sides. The core of the Kumari leaf is taken and put over both the eyes for 10 minutes under all aseptic precautions.

Details and Properties of Drug: Table 5

<u>Kumari</u>	<u>Goghrita</u>
Family -Liliaceae	<i>Gana: Madhur Skandha (Charak)</i>
Latin Name: <i>Aloes vera, Tourn ex Linn</i>	Latin Name: <i>Butyrum Deparatu</i>
Sanskrit Name: <i>Ghritakumari</i>	Sanskrit Name: <i>Ghrita</i>
Hindi Name: <i>Gheekumwar</i>	Hindi Name: <i>Ghee</i>
English Name: Indian aloe	English Name: Clarified butter
<i>Rasa: Tikta, Madhura</i>	<i>Rasa: Madhura</i>
<i>Guna: Guru, Snigdha, Pichchila</i>	<i>Guna: Snigdha, Guru</i>
<i>Veerya: Sheeta</i>	<i>Veerya: Sheeta</i>
<i>Vipaka: Madhura</i>	<i>Vipaka: Madhura</i>
<i>Doshaghната: According to Anupana and Awastha it balances Tridosha.</i>	<i>Doshaghната: Vata-Pittahara</i>
<i>Karma: Chakshushya</i>	<i>Karma: Medhya, Rasayan, Chakshushya</i>

Results: Observations in the Symptoms of CVS: Table 6

Patient	Patient	Prior Treatment	Post Treatment
A	Dryness	++	0
	Burning sensation	++	+
	Redness	++	0
	Eye strain	+	0
B	Dryness	+	0
	Burning sensation	++	0
	Redness	+	0
	Eye strain	++	+
C	Dryness	++	0
	Burning sensation	+	0
	Redness	+	0
	Eye strain	+	0

Clinical Findings of the Schirmer's Test and TFBUT: Table 7

Patient	Prior Treatment	Post Treatment
A	7 & 10 mm	15 & 18 mm
	10-15 sec	20 & 25 sec
B	10 & 15 mm	20 & 22 mm
	5-10 sec	18 & 25 sec
C	5 & 10 mm	18 & 20 mm
	10-15 sec	20 & 22 sec

Fig. 1 Kumari Application

DISCUSSION

Increased screening time is said to be the main cause of C.V.S. Application of Kumari Leaf core which reduces eye strain when administered locally. In Sushruta Samhita, the Shushkashipaka is mentioned as the Sarvagata Netraroga. Bhavaprakasha has mentioned Kumari as one of the Netrya Dravya. Also, Goghrita is beneficial for complete maintenance of physiology of eye with its Snigdha, Madhura Guna hence it is chosen for this study. The Guna Karma of Kumari and Goghrita are Vata-Pitta Shamaka and both having Chakshushya properties.

The water and enzymes contained in aloe vera can help moisturize the eyelid skin and reduce flakiness and itchiness. Aloe vera may help prevent dryness around the eyes. The minerals found in aloe vera include zinc, magnesium, potassium, and selenium. Zinc and selenium have antioxidant benefits. Antioxidants are molecules that have ability to repair cells that have been damaged. In addition to these minerals, aloe vera also contains vitamins A, C, and E, which have an antioxidant effect. It has moisturising property which can be beneficial to treat the dryness in the eyes when applied on closed eyes. More research to be done to know the effects of Kumari leaf core when used topically into the eyes in the form of gel-based eye drops.

Both Kumari and Goghrita are having Sheeta Veerya, Madhura Rasa which is beneficial to break the pathology of computer vision syndrome. Also, both the Dravyas are Chakshushya. When this combination of the therapy used it moisturizes eyes and balances exchange of nutrients in the eyes by local and systemic routes. This study can be applied on large scale to know its effects on molecular level and to understand the side effects if any.

CONCLUSION

According to dominance of Dosha in the symptoms, C.V.S. can be treated as Vata-Pittaj disease. The treatment administered was according to reference with Shushkakshipaka. Both the treatment modalities in combination have Vata-Pitta Shamak property and potential to give local and systemic relief improving the symptoms of C.V.S. With multicentric study applied over large sample size, the results of the present study can be elaborated.

REFERENCES

1. Kaviraj S. A., Sushruta Samhita-Part 1,Sharir Adhyaya 1/26, Edition Reprint 2013, Published by Chaukhamba Sanskrita Sansthan, Varanasi, P-9.
2. Shastri K., Charak Samhita, Vol 1, Sharir Adhyaya 1/118 -123, Edition Reprint 2007, Published by Chaukhamba Sanskrita Sansthan, Varanasi, P-715
3. Volume 2018 |Article ID 4107590 |https://doi.org/10.1155/2018/4107590
4. Tripathi H., Vangasena Samhita., Adhyaya 36/86, Edition Reprint 2009, Published by Chaukhamba Sanskrita Sansthan, Varanasi, P-458.
5. Late Doctor Garde G. K., Sartha Vagbhata- Vagbhatkrita Ashtanghridaya, Uttartantra Adhyaya 13/48 Rajesh Prakashan, Varanasi, Edition-2014, Page no-92.
6. Salman John F., Kansaki's Clinical Ophthalmology, Published by Elsevier Edition 9th, P-155.
7. Khurana A. K. Comprehensive Ophthalmology, Jaypee Brothers Medical Publishers, Edition 7th, P-405.
8. Chunekar K. C. Bhavprakash Nighantu, Ghrita Varga S-4-6 Edition Reprint 2010, Published by Chaukhamba Bharati Acadami P-758