

**A CLINICAL STUDY ON JEEVANIYA GHRITA AND DRISHTI PRASADAKA YOGA (FORMULATED COMPOUND) IN THE MANAGEMENT OF COMPUTER VISION SYNDROME (CVS) W.S.R SHUSHKAKSHIPAKA**

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**ABSTRACT**

Computer Vision Syndrome (CVS), a new disorder emerging as a pandemic in 21<sup>st</sup> century is having a variety of Vision related symptoms that occur when you frequently work at video display terminals (VDT- Laptops, Desk tops etc) for a longer time in a day. CVS is considered as a problem of this era and management of CVS is seldom talked about in the field of *Ayurveda*. On critical analysis of symptoms of CVS on the basis of *Tridosha* theory, it is concluded that CVS is *vata pitta* disease predominantly affecting eyes. Therefore, this study was planned keeping in mind features of CVS. For this 40 patients of both sexes were randomly selected from O.P.D. and I.P.D. of Sh. Krishna Govt. Ayurvedic College & Hospital, Kurukshetra, Haryana. In Group A, 20 patients were treated with local/topical treatment i.e. *Tarpana Karma* with *Jeevaniya Ghrita* and in Group B 20 patients were prescribed, oral medication i.e *Drishti Prasadaka Yoga* (formulated compound) & topical treatment i.e *Tarpana Karma* with *Jeevaniya Ghrita*. Follow up was done every fortnightly. Counseling was done in both groups. Statistically significant results in Group A and highly significant results were observed in Group B. It is concluded that oral medication *Drishti Prasadak Yoga* (formulated compound) & topical treatment i.e. *Tarpana* with *Jeevaniya Ghrita* was very effective to treat and controlling the symptoms of CVS.

**Keywords:** Computer Vision Syndrome, *Tarpana*, *Jeevaniya Ghrita*, Video Display Terminal

**INTRODUCTION**

Eyes provide us sight, without which life would lose most of its meaning and this loss can never be compensated. It has been very well said in *Ayurveda* that “those who wish to live long life; they must take precautions for protection of their eyes because for a blind, day and night are one and the same. In the era

of 21<sup>st</sup> century, pace of life has become more speedy, accelerated and competitive. Modes of communications have also been changed from bullock carts to airplanes and inland letters to emails. To quench the thirst of knowledge library has turned into e-library making all data become more handy and portable.

To explore the whole world speedily we use internet round the clock and with in short period of time we get desired data. This convenience as like other new inventions has made man's life easier but also brought some disadvantages. Due to this long term exposure to video display terminals (VDT) a new group of eye and vision related problems has emerged which needs much attention and that is computer vision syndrome / video display terminal syndrome. The symptoms of Computer Vision Syndrome (CVS) are related mostly to fatigue and stress. Just like other repetitive stress injuries, computer vision syndrome can get worse the longer you continue the activity. Symptoms of CVS includes eye strain, blurred vision, dry, gritty and red eye, burning sensation, excessive tear secretion, temporary colour vision change, headache along with pain in neck, back and shoulder.

There are more than 10 Million visits to eye doctors every year for CVS related problems.<sup>1</sup> One million new cases reported each year.<sup>2</sup> working at a computer requires that the eyes continuously focus and they 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 efforts 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. Moreover while concentrating on the computer monitor, our eyes tends to blink less resulting in drying up of tears causing dryness of eyes. Since no specific remedial measures have been mentioned for CVS in modern medicine whole community has an eye on *Ayurveda* for search of any effective measure. In Ayurvedic classics, no direct reference of CVS is available but on the basis of symptoms, CVS can be correlated with *Shushkakshipaka* which is one among *Sarvagata Netra Roga*.<sup>3</sup> On having critical analysis of symptoms of CVS, it is clear that all the symptoms are mainly related to vitiation of *Vata* and *Pitta doshas*. These vitiated *doshas* traverses to the eyes by *siras* and gets accumulated in eye to manifest the disease *Shushkakshipaka*.<sup>3,4</sup> In *Shushkakshipaka*, eyes become dry and gritty, eye lids becomes hard, rough & it becomes difficult to open up the eyes, and vision is blurred. There is pricking type of pain, foreign body sensation in eyes and constriction of eye and liking of cold. These all features indicate the vitiation of mainly *Vata* and *Pitta dosha*. So here an attempt has been made to correlate the symptoms of CVS with *dosha* involved:-

**TABLE 1: PREDOMINATED DOSHA IN SYMPTOM OF COMPUTER VISION SYNDROME**

S.No.	Features	Predominated <i>Dosha</i>
1.	Foreign body sensation in eye (Gritty Eyes)	<i>Vata</i>
2.	Eye strain	<i>Vata</i>
3.	Dryness of eyes	<i>Vata</i>
4.	Redness of eyes	<i>Pitta</i>
5.	Burning Sensation of eyes	<i>Pitta</i>
6.	Blurred Vision	<i>Pitta</i>
7.	Excessive Lacrimation	<i>Vata</i>
8.	Headache	<i>Vata</i>
9.	Light or glare sensitivity	<i>Vata, Pitta</i>
10.	Sluggishness in changing eyes focus	<i>Vata</i>
11.	Occasional Changes in colour perception	<i>Vata Pitta</i>
12.	Excessive fatigue (Neck, shoulder and backache)	<i>Vata</i>

## DRUG

As the symptoms of Computer Vision Syndrome (CVS) indicate mainly vitiation of *Vata* and *Pitta*

*Dosha*, the treatment modalities should have *Vata Pittahara* properties along with *Chakshushya* and

Rasayana qualities to strengthen up the eye. For this purpose Jeevaniya Ghrita<sup>5</sup> (Ghrita processed with drugs of Jeevaniya Gana) was selected for Tarpana

Karma along with Formulated compound named Drishti Prasadaka Yoga (powder form) having drugs which are as follows:-

**TABLE 2: DRUGS IN JEEVANIYA GANA**

S.No.	Drugs Name	Latin Name	Part Used
1.	Shatavari	<i>Asparagus racemosus Willd.</i>	Tuber
2.	Ashwagandha	<i>Withania somnifera (Linn.) Dunal</i>	Root
3.	Vidarikanda	<i>Pueraria tuberosa DC</i>	Tuber
4.	Mudagaparni	<i>Phaseolus trilobus Ait.</i>	Whole Plant
5.	Mashparni	<i>Teramnus labialis Spreng.</i>	Whole Plant
6.	Yashtimadhu	<i>Glycyrrhiza glabra Linn.</i>	Root
7.	Jivanti	<i>Leptadenia reticulate W. &amp; A.</i>	Root

The Jeevaniya Ghrita was prepared according to the standard method of preparation of Ghritas<sup>6</sup> in the pharmacy of Sh. Krishna Govt. Ayurvedic College, Kurukshetra. Out of 10 ingredients of this compound drug, six drugs viz. Kakoli, Ksheera Kakoli, Meda, Mahameda and Jivak Rishbhak are controversial and

not available. So the substitute drugs "Ashwagandha", "Shatavari", "Vidarikanda" described in Bhava Prakasha was selected respectively in place of controversial drugs and taken into double quantity.

**TABLE 3: DRUGS IN DRISHTI PRASADAKA YOGA**

S.No.	Drug Name	Latin name	Parts Used
1.	Patola	<i>Trichosanthes dioica Roxb.</i>	Leaves
2.	Guduchi	<i>Tinospora cordifolia (Willd) Miers ex Hook. f. &amp; Thoms.</i>	Stem
3.	Yashtimadhu	<i>Glycyrrhiza glabra Linn.</i>	Root
4.	Shatavari	<i>Asparagus racemosus Willd</i>	Tuber
5.	Harar	<i>Terminalia chebula Retz.</i>	Fruit
6.	Bahera	<i>Terminalia Billerica Roxb.</i>	Fruit
7.	Amla	<i>Emblica officinalis Gaertn.</i>	Fruit
8.	Kantkari	<i>Solanum surattense Burm.f.</i>	Whole Plant
9.	Brihati	<i>Solanum indicum Linn.</i>	Root
10.	Shalparni	<i>Desmodium gangeticum DC.</i>	Whole Plant
11.	Prishnaparni	<i>Uraria picta Desv.</i>	Root
12.	Gokshura	<i>Tribulus terrestris Linn.</i>	Fruit
13.	Gambhari	<i>Gmelina arborea Linn.</i>	Fruit
14.	Shyonaka	<i>Oroxylum indicum Vent.</i>	Root
15.	Agnimantha	<i>Premna mucronata Roxb.</i>	Root
16.	Patala	<i>Stereospermum suaveolens DC.</i>	Root
17.	Bilwa	<i>Aegle marmelos Corr.</i>	Root

After proper identification the dried required parts of the ingredients of Drishti Prasadaka Yoga were taken in equal quantity and made fine powder (Kapadchan churana). The powdered drug was packed in sterile airtight packs.

#### AIM & OBJECTIVES

1. To assess the efficacy of Jeevaniya Ghrita and Drishtiprasadaka Yoga in the management of computer vision syndrome.
2. To assess the role of counseling in CVS.
3. To find safe & effective treatment without untoward effect.

## MATERIALS & METHODS

**Patients:** The patients attending the OPD of S. K. Govt. Ayurvedic College and Hospital, Kurukshetra, Haryana with the complaints of CVS were selected irrespective of age, sex, caste and religion.

**Grouping:** Selected 40 patients were equally (i.e. 20) divided into two groups randomly.

**Group A:** 20 patients of this group were treated with topical treatment i.e. *Akshi Tarpana* with *Jeevaniya Ghrita*. **Group B:** 20 patients of this group were treated with oral medication *Drishti prasadaka Yoga* (hypothetical compound) & topical treatment i.e. *Tarpana* with *Jeevaniya Ghrita*.

**Dose & duration of Jeevaniya Ghrita:** The customized dose of *Jeevaniya Ghrita* was used for process of *tarpana*, aiming drowning of eyelashes in it for 20 minutes daily.

**Dose & duration of Drishti Prasadaka Yoga:** 6gm twice daily with an *anupana* of *Madhu* (Honey)<sup>7</sup> for 45 days.

**Duration of Akshitarpana:** *Akshitarpana Karma* with *Jeevaniya Ghrita* for 7 days followed by a gap of 10 days and then same is repeated again. Total such three sittings were given.

**Study design-** Open control study Counseling i.e. ergonomic measures for dynamic sitting, positioning of computer, techniques to improve vision, for excessive fatigue and regarding illumination/light was done in both the groups.

## CRITERIA FOR SELECTION OF PATIENTS

### Inclusion Criteria

1. Patients between ages of 15 to 60 years.
2. Patients having symptoms of CVS e.g. eye strain, blurred vision, dry, gritty and red eye, burning sensation, excessive tear secretion, temporary colour vision change, headache, and neck, back and shoulder pain.
3. Patients having minimum three symptoms of CVS
4. At least minimum 1 hour exposure to Video terminal display daily.
5. Chronicity of CVS at least 6 months to 1 year.

### Exclusion Criteria

1. Patients of age below 15 years or above 60 years.
2. Patients having symptoms due to direct physiological effect of drugs.
3. Any ocular pathology like optic atrophy, corneal ulcer and conjunctivitis etc.
4. Patients suffering from any systemic disease or metabolic disorder (diabetes, Hypothyroidism etc.)

### Diagnostic criteria

In this present study, only Routine eye examination including intraocular pressure, visual acuity and slit lamp examination were opted to rule out any other ocular pathology. No specific objective findings have been mentioned in CVS, so only subjective findings are kept in vigilance & for further evaluation.

**Assessment Criteria:** History of patients before and after the treatment was noted according to proforma having suitable subjective parameters (Scoring system). Total effect of therapy in each patient was evaluated after completion of treatment.

**Duration of Follow Up:** Patients of both the groups were called for follow up every fortnightly. Any discomfort or untoward effects were noticed. After completion of therapy the patients were called again for next one month to review the recurrence of the problem.

## OBSERVATIONS

In the present study, the maximum patients (56.18%) were between 15-30 years of age group and male (62.15%) predominance was observed. Higher frequency of Hindus i.e. 100% may be due to predominance of Hindu community in the study area. Most of the patients (54.73%) belong to middle socio economic class. The maximum no. of patients (61.73%) were computer operators followed by students (29.75%). Most of the patients i.e. 31.15% were using computer for 5-7 hours daily using different gadgets. 94.76 % patients were strictly vegetarian and 66.34% patients were having addiction of Tea followed by 17.34% having habit of chewing tobacco.

co. Majority of the patients were having Vata-Pitta Prakriti (49.92%). 59.67% of patients were having

sound sleep. Majority of patients (88.76%) were having no refractive error.

**TABLE 4: EFFECT OF THERAPY ON CHIEF COMPLAINTS IN GROUP A**

Cardinal Features	No. of Patients (n)	Mean		% of Relief	S.D. (±)	S.E. (±)	t	p	Interpretation
		BT	AT						
Foreign body sensation in eye (Gritty Eyes)	14	2.45	1.54	66.63	0.93	0.15	3.32	<0.01	Significant
Eye strain	20	1.64	0.65	60.53	0.59	0.19	3.96	<0.01	Significant
Dryness of eyes	18	1.77	0.38	78.53	0.87	0.24	5.74	<0.001	Highly Significant
Redness of eyes	15	1.46	1.08	45.43	0.51	0.14	2.74	>0.05	Insignificant
Burning Sensation of eyes	14	1.86	1.14	39.64	0.82	1.16	1.76	>0.05	Insignificant
Blurred Vision	16	1.63	0.94	54.31	0.48	0.17	1.86	<0.01	Significant
Excessive Lacrimation	12	1.56	1.25	32.1	0.69	0.10	1.73	>0.05	Insignificant
Headache	13	2.74	1.54	46.53	0.64	0.14	1.91	>0.05	Insignificant
Light or glare sensitivity	11	2.16	1.23	43.93	0.66	0.1	2.47	<0.05	Significant
Sluggishness in changing focus	10	2.11	1.2	49.57	0.47	0.07	2.12	<0.05	Significant
Occasional Changes in colour perception	2	1.91	1.48	48.46	0.48	0.12	1.86	>0.05	Insignificant
Excessive fatigue (Neck, shoulder and backache)	18	1.86	1.14	38.32	0.82	0.16	1.76	>0.05	Insignificant

**TABLE 5: EFFECT OF THERAPY ON CHIEF COMPLAINTS IN GROUP B**

Cardinal Features	No. of Patients (n)	Mean		% of Relief	S.D. (±)	S.E. (±)	t	P	Interpretation
		BT	AT						
Foreign body sensation in eye (Gritty Eyes)	18	3.9	1.44	63.10	1.00	0.15	8.09	<0.001	Highly Significant
Eye strain	20	3.15	1.32	60.38	1.15	0.16	7.59	<0.001	Highly Significant
Dryness of eyes	17	2.48	0.94	61.18	1.00	0.15	4.58	<0.001	Highly Significant
Redness of eyes	18	2.16	1.71	57.34	0.80	0.17	2.66	<0.05	Significant
Burning Sensation of eyes	16	2.33	2.12	41.43	0.84	0.12	2.58	<0.05	Significant
Blurred Vision	17	3.11	2.60	59.7	0.81	0.12	6.67	<0.001	Highly Significant
Excessive Lacrimation	10	2.78	2.13	54.94	0.89	0.13	2.53	<0.05	Significant
Headache	13	2.07	0.91	56.06	0.76	0.11	2.78	<0.05	Significant
Light or glare sensitivity	10	2.65	1.05	61.4	0.80	0.17	2.66	<0.05	Significant
Sluggishness in changing focus	09	2.29	0.98	51.92	0.65	0.15	2.53	<0.05	Significant
Occasional Changes in colour perception	01	1.63	0.94	69.33	0.48	0.12	1.86	>0.05	insignificant
Excessive fatigue (Neck, shoulder and backache)	19	1.47	0.88	61.34	0.73	0.17	3.41	<0.01	Highly Significant

## OVERALL EFFECTS OF THERAPY

In the present study, in Group A statistically highly significant ( $<0.001$ ) result was observed on dryness of eyes (78.53%). Significant results ( $<0.01$ ) have been observed on chief complaints like foreign body sensation in eyes (66.63%), eye strain (60.53%), blurred vision (54.31%). Significant results at the level of  $<0.05$  has been observed on complaints like glare sensitivity (43.93%) and Sluggishness in changing focus (49.5%). Complaints like redness of eyes (45.43%), burning sensation in eyes, (39.64%) headache (46.53%), excessive lacrimation (32.1%) and features of excessive fatigue (38.32%) have shown insignificant results ( $>0.05$ ). **(Table no- 4)**. In Group B, highly significant results ( $<0.001$ ) have been observed on chief complaints like foreign body sensation in eyes (63.10%), eye strain(60.38%), dryness of eyes (61.18%), blurred vision (59.7%) and excessive fatigue(61.34%). While significant improvement ( $<0.05$ ) has been observed in symptoms like redness of eyes (57.34%), burning sensation in eyes (41.43%), headache (56.06%), excessive lacrimation (54.94%), glare sensitivity (61.4%) and Sluggishness in changing focus (51.92%). **(Table no-5)**. Overall, it has been observed that treatment with *Jeevaniya Ghrita Tarpana* along with oral *Drishti Prasadaka Yoga* was highly effective in almost all the symptoms of CVS as compared to only *Tarpana Karma*.

## DISCUSSION

As all the drugs of *Jeevaniya ghrita*<sup>5</sup> are having *Tridoshaghana* mainly *Vatapittashamaka* qualities. *Ghrita* itself is very good *pitta- vata* alleviating substance<sup>8,9</sup> and especially indicated in eye disorders due to its *chakshushya* properties.<sup>9</sup> It has very good action on symptoms of CVS. *Kriyakalpa* is the basis of the ophthalmic disorders, as *Panchakarma* is the basis of *Kayachikitsa*. Moreover *Tarpana Karma* is one of the major *Kriyakalpa* used to restore health as well as diseased condition of eyes and strengthen up eye itself. When we refer to our classics for the therapeutic measures adopted in the management of eye diseases, we find that the management includes

many of the topical treatments along with systemic ones. The reason might be that the drugs administered systemically may not cross the blood aqueous, blood-vitreous and blood-retinal barriers. Now the topical measures came into play and these are called as '*Kriya Kalpas*'. In *Astanga Hridaya*, it is clear cut mentioned that in *vatapitta* symptoms of eyes, *Tarpana Karma* is beneficial.<sup>10</sup> As per the reference of *Sushruta Samhita*<sup>5,11</sup>, *Jeevaniya Ghrita* is considered very effective in the management of dry eye orally as well as locally (*Tarpana*). Attributes of *Ghee* i.e. unctuousness and coldness are antagonistic to those of *Vata* and *Pitta* like dryness, lusterless, roughness and heat respectively. Moreover Vitamin A and E present in *Ghee* are Antioxidants and Vitamin A keep epithelial tissue of Body intact and keep the outer lining of eyeball moist. Lipophilic action of *Ghee* facilitates transportation of drugs to the target organ (Eye) since corneal epithelium is also permeable to lipid soluble substances. Also the drugs processed with *Ghee* remains with the contact of eye surface for longer time thereby providing maximum effect.

*Drishti Prasadaka Yoga* is having drugs like *Triphala*, *Patola*, *Guduchi*, *Yashhimadhu*, *Shatavari* all of which are having *Tridoshahar* mainly *Pittashamaka*, *chakshushya* and *Rasayana* properties and *Dashmoola* having *Tridosha shamaka* mainly *Vata shamaka* properties thereby subsiding symptoms of excessive fatigue and inflammatory conditions of body and eye

## CONCLUSION

As no special reference regarding Computer vision syndrome is mentioned in Ayurveda but on the basis of clinical symptoms it can be deduced as *Vatapittaja* disease which can be closely correlated with *Shushkakshipaka*, mainly involving eyes. No untoward effects of the study drug were observed during the study. It can be concluded that the research trial drug *Jeevaniya Ghrita* and *Drishti Prasadaka Yoga* have potential of improving the symptoms of Computer Vision Syndrome along with counseling. Though, more elaborate multicentric

study with large sample size is needed to authenticate the results of the present study.

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