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## A clinical study to assess the efficacy of *Usheer Heem* in *Netradaha* w.s.r. Computer Vision Syndrome

Preeti.V.Sahu<sup>1</sup>, Shweta S. Zade<sup>2</sup>, Giridhar D. Thakare<sup>3</sup>

<sup>1</sup> Associate Professor & Head, Department of Sanskrit Samhita and Siddhant,  
M.S.Ayurved Medical College, Gondia,India

<sup>2</sup> Assistant Professor, Department of Ras Shastra & Bhaishajya Kalpana,  
M.S.Ayurved Medical College, Gondia,India

<sup>3</sup> Assistant Professor, Department of Sanskrit Samhita and Siddhant,  
Shri Ayurved College, Nagpur, India

**Abstract:** Improper use of sense organs, violating the moral code of conduct and the effect of the time are the three basic causative factors behind all the health problems. Computer, the knowledge bank of modern life, has emerged as a leading cause for vision related discomfort, ocular fatigue and systemic effects. Burning sensation of eye is the most common symptom of Dry Eye Syndrome as well as other conditions such as Blepharitis, Pink Eye and Allergies. One of the most prevalent is the presence of computer vision syndrome (CVS). It is the new nomenclature for the visual, ocular and systemic symptoms arising due to long time spent and improper ergonomics while working with a computer. It is emerging as a pandemic in the 21<sup>st</sup> century. CVS seems to be a *Vata-Pittaja* ocular cum systemic disorder that needs systemic as well as topical treatment approach. *Usheer* (*Vetiveria zizanioides*) orally and topically was administered in 30 patients having burning sensation feature of CVS. Group I (Experiment Group) was given oral and local treatment. Significant improvement in burning sensation of CVS was observed, whereas in Group II (Control Group) local treatment showed insignificant results.

**Keywords:** Computer vision syndrome, Burning Sensation of Eye, *Netradaha*, *Usheer*, *Vetiveria zizanioides*

### Introduction

Eye holds a special status among all the sense organs. During early evolution of the human race hunting was essential for survival. This mandated that eyes specialized for distant vision to enable man to hunt. With the passage of time and advent of agriculture man did not require hunting in the forests for sustenance.

Today we live in a highly sophisticated technological environment, Computer is one of the advanced technologies that is used by young and old. More people are sitting in front of the computer for longer hours, which is a task making very high demands of concentration on human vision. The eyes, however, are still structured according to the requirements of the hunting era and are unable to cope with the demand of computer work. This leads to ocular and systemic discomfort termed as Computer Vision Syndrome (CVS).

No remedial measures for the prevention and cure of this pathology are available in the domain of modern medicine except using ocular surface lubricants, computer glasses, and counseling for judicious computer use. This opens the door to the other systems of medicine including *Ayurveda* to suggest experiments and contribute alternative

modalities to alleviate or to check the suffering of computer users.

Ayurveda is open to prospective and undescribed health problems to be incorporated in the system on fundamental grounds. 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.

Acharya Vagbhata has indicated cooling and rejuvenating therapies (*Dahashamak*) for eyes affected by bright light, high-voltage electric spark and heat exposure. These phenomena are close to the etiopathology of Burning sensation feature of CVS. Local therapy in the form of *Pichu* (placing of soaked cotton) and systemic *santarpana* (anabolic nutritional supplement) with *Usheer* has been studied in the management of Burning sensation in CVS.

### Aims and Objectives

- To study the Burning sensation feature of CVS from Ayurvedic perspective.
- To know the effects of *Usheer* when administered orally and topically.

**MATERIALS AND METHODS**

Collection of drug: *Usheer* was collected and *Usheer Heem* was prepared at the pharmacy of Shri Ayurved College, Nagpur

**Consent of participate in study:**

A detailed consent form was prepared for the present study. Subjects were detailed about merits and demerits of research work, duration of trial and route of administration of formulation before taking consent. During follow up regular records were documented in a specified Proforma.

**Selection of patients**

Patients were selected from the Shalakyta Tantra (eye unit) OPD of the hospital affiliated to Shri Ayurved College, Nagpur for the present study. A total of 60 patients of CVS were registered at random irrespective of age, sex and ethnicity etc.

**Inclusion criteria**

All patients who use computer for at least 2 hours/day and present with Burning sensation of CVS were included in this study.

**Exclusion criteria**

- Patients who were not willing to register
- Cases with complications of acute, chronic, infective conjunctivitis, any eyelid disorders, corneal ulcers, dacryocystitis and lagophthalmos
- Patients suffering from any systemic or metabolic disorders

**Method of study**

By random sampling technique, the diagnosed patients, who fulfilled the inclusion criteria, were

divided into the following two groups with 30 patients each:

(i) Group I (Experiment) – In this group, *Usheer Heem* was administered orally and externally (*pichu*).

(ii) Group II (Control) – In this group, distilled water was administered externally (*pichu*).

**Drug schedule**

**Group I - *Usheer heem*** (cold infusion) was given orally in a dose of 25 ml twice daily and external application of double filtered and autoclaved *Usheer heem (pichu)* over both eyes for 30 minutes two times in a day was given for 15 days.

**Group II - External application with distilled water (*pichu*)** over both eyes for 30 minutes two times in a day for 15 days .

**Duration of trial:** The trial of therapy was carried out up to 15 days for both group.

**Follow-up:** Follow-up was done on the fifth day to assess changes and patients were followed up for the next fifteen days.

**Criteria of assessment:**

Grading and scoring system was adopted for assessing burning sensation of eyes before the commencement of trial and after the completion of trial in both Group.

The score was categorized into three degrees Severe (3), Medium (2) and mild (1).

**Results and Observations**

Demographic data have been presented for 60 patients.

Table I: Data Before Treatment:

Grade → Group ↓	2	3	Total
Control Group	17 56.67	13 43.33	30 100
Experiment Group	10 33.33	20 66.67	30 100
Total	27 45	33 55.00	60 100

Table II Results obtained during 0-5 days of the treatment:

Grade → Group ↓	1	2	3	Total
Control Group	1 3.33	17 56.67	12 40.00	30 100
Experiment Group	6 20.00	15 50.00	9 30.00	30 100
Total	7 11.67	32 55.33	21 35.00	60 100

Table III Results obtained during 5-10 days of the treatment:

Grade → Group ↓	0	1	2	3	Total
Control Group	0 0.00	5 16.67	15 50.00	10 33.33	30 100
Experiment Group	1 3.33	15 50.00	9 30.00	5 16.67	30 100
Total	1 1.67	20 33.33	24 40.00	15 25.00	60 100

Table IV showing the results obtained during 10-15 days of the treatment:

Grade → Group ↓	0	1	2	3	Total
Control Group	310.00	9 30.00	10 33.33	8 26.67	30 100
Experiment Group	15 50.00	6 20.00	9 20.00	3 10.00	30 100
Total	18 30.00	15 25.00	24 26.67	11 18.33	60 100

Table V: Chi-square test ( $\chi^2$ )

Grade → Group ↓	Chi Square Test ( $\chi^2$ )	df	P	Significance
Before Treatment	3.2997	1	0.069	Not Significant
0-5	4.1250	2	0.127	Not Significant
5-10	9.1667	3	0.027	Significant
10-15	11.8727	3	0.008	Highly Significant

### Demographic profile

It revealed that the incidence of CVS was higher, i.e., 43.33% in the age group of 21–30 years and was 63.33% in females. 33.34% were students. Most of the patients, i.e., 33.34%, were using computer for 8–10 hr/day; 68.33% of patients were on mixed diet. The incidence was more, i.e., 50% in patients with *Vata-Pittaja Prakriti*. Maximum number of patients, i.e. 88.34% was addicted to tea or coffee, 36.66% of patients were having regular bowel habits and 36.67% of patients were having sound sleep. Environmental factor like exposure to sunlight found in patients was 66.67% and dust exposure was 30%. Maximum patients i.e. 90% found consuming katu ras (pungent) in diet.

### Discussion

#### Demographic profile

Majority of patients studied were in the age group of 21–30 years because this age group uses computers more than the other age groups. Most of the patients were full-time computer workers and

used computer for 8–10 hr/day, which shows that prevalence of CVS is more in long time computer users because they have no time for rest (break). Most of the patients were addicted to tea or coffee and pungent taste. Maximum number of patients were of *Vata-Pittaja Prakriti* indicating CVS, a *Vata* dominating *Pittaja* disorder. Environmental factors such as sunlight and dust exposure lead to aggravation of burning sensation of eyes.

#### Clinical profile

Chi-square test on data does not show a significant difference after 0-5 days. However, after 5-10 days it shows significant difference between experiment group and control group. After 10-15 days it shows highly significant difference between experiment group and control group. These observations mean that *usheer heem* is effective in treating burning sensation of eyes as compared to distilled water after 5-10 days and it is more effective after 10-15 days.

## Conclusion

The discussion on Burning sensation symptom of CVS from the perspective of *Ayurveda* is clearly suggestive of *Pittaja* vitiation in eye and body as a whole. *Usheer* is a coolant that pacifies Vata and Pitta and is widely used in treating fever, dysuria,

burning sensation, fatigue syndrome, skin disorders etc. *Heem* (cold infusion) prepared with this has many other health benefits. *Usheer heem* (Cold Infusion), along with external *pichu* was more effective in relieving the burning sensation feature of CVS.

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