

Review Article

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## AYURVEDIC PERSPECTIVE OF *SHUSHKAKSHIPAKA* W.S.R. TO COMPUTER AND VISUAL DISPLAY TERMINAL VISION SYNDROME: A REVIEW ARTICLE

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### Abstract

**Background:** *Shushkakshipaka* is a well-described ocular condition in Ayurveda characterized by dryness, irritation, burning sensation, foreign body feeling, and visual discomfort. In the present era, excessive use of computers, smartphones, and other visual display terminals has led to a marked rise in Computer and Visual Display Terminal Vision Syndrome, which closely resembles the clinical picture of *Shushkakshipaka*. Understanding this condition through the Ayurvedic lens is important for holistic prevention and management. **Aim** To review *Shushkakshipaka* from the Ayurvedic perspective and correlate it with Computer and Visual Display Terminal Vision Syndrome. **Objectives** To study the etiological factors and *Samprapti* of *Shushkakshipaka* described in Ayurvedic classics. To correlate the clinical features of *Shushkakshipaka* with Computer and Visual Display Terminal Vision Syndrome. To highlight the relevance of Ayurvedic preventive and management principles for digital eye strain. **Materials and Methods:** A comprehensive literary review was carried out using classical Ayurvedic texts such as *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*, along with available contemporary literature related to Computer and Visual Display Terminal Vision Syndrome. Relevant verses,

commentaries, and modern scientific observations were critically analyzed and interpreted.

**Results:** The review reveals that *Shushkakshipaka* is predominantly caused by *Vata* and *Pitta Dosh*a vitiation, aggravated by factors like excessive eye strain, improper visual habits, and mental stress. These causative factors and symptomatology show a strong resemblance to Computer and Visual Display Terminal Vision Syndrome, including dryness, burning, redness, eye fatigue, and blurred vision. **Conclusion:** *Shushkakshipaka* can be considered the Ayurvedic counterpart of Computer and Visual Display Terminal Vision Syndrome. Ayurvedic principles focusing on *Nidana Parivarjana*, *Netra Kriyakalpa*, *Rasayana* therapy, and lifestyle modification offer a comprehensive and sustainable approach for prevention and management of this modern occupational eye disorder.

**Keywords:** *Shushkakshipaka*, Computer Vision Syndrome, *Vata-Pitta Dosh*a, *Netra Roga*, *Nidana Parivarjana*, Digital Eye Strain

## INTRODUCTION

The eyes are among the most delicate and essential sense organs, playing a central role in perception, learning, and day-to-day functioning. In Ayurveda, the eye is considered a vital organ governed mainly by *Alochaka Pitta* and supported by proper balance of *Vata* and *Kapha*. Any disturbance in this equilibrium directly affects visual comfort and clarity. Classical Ayurvedic texts emphasize that continuous strain on the eyes weakens ocular tissues and predisposes them to functional disorders.<sup>1</sup>

In the modern digital era, prolonged exposure to computers, mobile phones, and other visual display terminals has become unavoidable. Extended screen time, reduced blinking, improper posture, artificial lighting, and continuous near-work place excessive stress on the visual apparatus. These factors commonly lead to a cluster of symptoms such as eye dryness, burning sensation, irritation, redness, foreign body sensation, headache, and blurred vision, collectively described in contemporary medicine as Computer and Visual Display Terminal Vision Syndrome.<sup>2</sup>

Ayurveda describes a condition known as *Shushkakshipaka*, characterized by dryness, roughness, burning, pricking pain, and discomfort in the eyes. This disorder is mainly attributed to vitiation of *Vata* along with *Pitta Dosh*a, often precipitated by excessive use of the eyes, exposure to heat, lack of proper lubrication, and mental strain. The symptomatology

and causative factors of *Shushkakshipaka* closely resemble those observed in individuals suffering from digital eye strain.<sup>3</sup>

Understanding Computer and Visual Display Terminal Vision Syndrome through the Ayurvedic framework of *Shushkakshipaka* provides a broader and more holistic outlook. Ayurveda not only explains the pathogenesis in terms of *Dosha* imbalance but also offers preventive and therapeutic strategies such as *Nidana Parivarjana*, *Netra Kriyakalpa*, dietary regulation, and lifestyle modification. This integrative perspective becomes highly relevant in managing ocular complaints arising from modern digital lifestyles.<sup>4</sup>

## **AIM AND OBJECTIVES**

### **Aim**

To review *Shushkakshipaka* from the Ayurvedic perspective and correlate it with Computer and Visual Display Terminal Vision Syndrome.

### **Objectives**

1. To study the etiological factors and *Samprapti* of *Shushkakshipaka* described in Ayurvedic classics.
2. To correlate the clinical features of *Shushkakshipaka* with Computer and Visual Display Terminal Vision Syndrome.
3. To highlight the relevance of Ayurvedic preventive and management principles for digital eye strain.

## **Materials and Methods**

The present study is a descriptive literary review based on classical Ayurvedic texts and relevant modern literature. Ayurvedic references related to *Shushkakshipaka* were collected from authoritative texts such as *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya*, along with their classical commentaries. Descriptions of *Nidana*, *Purvarupa*, *Lakshana*, *Samprapti*, and management principles were systematically reviewed and analyzed. Modern scientific literature pertaining to Computer and Visual Display Terminal Vision Syndrome was also referred to understand its etiological factors, clinical features, and pathophysiology. Correlation between Ayurvedic concepts and modern descriptions was carried out based on symptomatology and causative factors to establish conceptual similarity.

## CONCEPTUAL STUDY

### ***Shushkakshipaka***

*Shushkakshipaka* is an important *Netra Roga* described in Ayurvedic classics, mainly caused by vitiation of *Vata* and *Pitta Dosha*. It presents with dryness, burning, irritation, and discomfort of the eyes. Excessive use of eyes, exposure to heat, lack of lubrication, and mental strain play a major role in its causation. In the present digital era, the clinical picture of *Shushkakshipaka* closely resembles Computer and Visual Display Terminal Vision Syndrome.<sup>5</sup>

### **Nidana (Etiological Factors)<sup>6</sup>**

The causative factors of *Shushkakshipaka* are predominantly those that aggravate *Vata* and *Pitta Dosha*.

- Excessive use of eyes (*Atiyoga of Chakshurindriya*)
- Prolonged staring at screens and fine objects
- Exposure to smoke, dust, wind, and heat
- Inadequate sleep and night-awakening
- Mental stress, anxiety, and fatigue
- Intake of *Ruksha, Ushna, Tikshna, Katu Ahara*

### **Poorva Rupa (Prodromal Symptoms)<sup>7</sup>**

Before the full manifestation of disease, the following features may be noticed:

- Mild eye dryness
- Slight burning sensation
- Eye fatigue after visual work
- Heaviness or discomfort in eyes
- Reduced tolerance to light

### **Rupa (Clinical Features)<sup>8</sup>**

The classical symptoms of *Shushkakshipaka* include:

- Dryness of eyes (*Shushkata*)

- Burning sensation (*Daha*)
- Pricking or foreign body sensation
- Redness of eyes
- Eye strain and fatigue
- Difficulty in prolonged visual activity
- Occasional blurring of vision

### ***Upashaya - Anupashaya (Aggravating and Relieving Factors)***

#### ***Upashaya (Relieving factors):<sup>9</sup>***

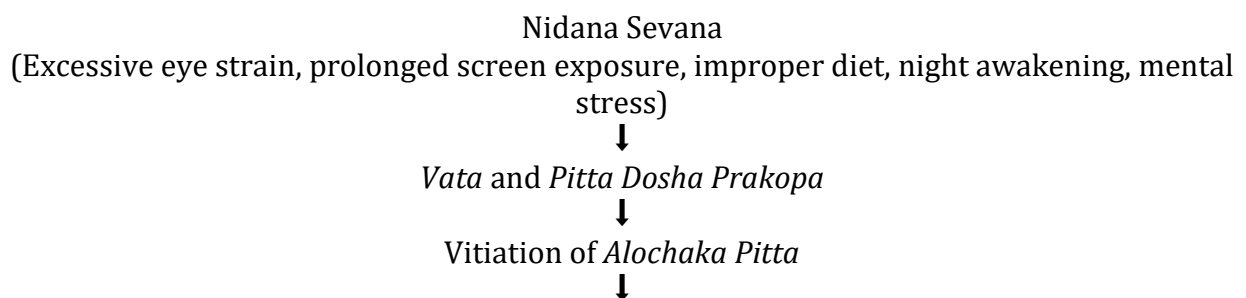
- Eye rest
- Lubricating therapies
- Cooling measures
- Proper sleep

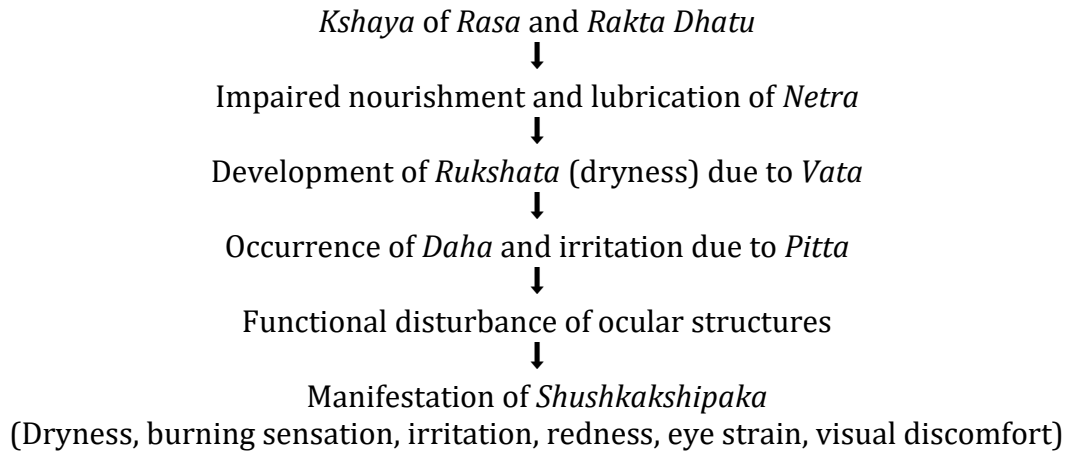
#### ***Anupashaya (Aggravating factors):<sup>10</sup>***

- Continuous screen exposure
- Heat and dryness
- Mental stress
- Irregular lifestyle

#### ***Samprapti (Pathogenesis)<sup>11</sup>***

Due to continuous exposure to etiological factors, *Vata* and *Pitta Dosha* get aggravated. Vitiating *Vata* causes dryness and instability, while aggravated *Pitta* produces burning and inflammatory changes. This leads to depletion of *Rasa* and *Rakta Dhatu*, impaired lubrication of ocular structures, dysfunction of *Alochaka Pitta*, and manifestation of *Shushkakshipaka*.





**Samprapti Ghatak**

Samprapti Ghatak	Description
<i>Dosha</i>	<i>Vata and Pitta</i>
<i>Dushya</i>	<i>Rasa, Rakta</i>
<i>Agni</i>	<i>Dhatvagni Mandya</i>
<i>Srotas</i>	<i>Rasavaha, Raktavaha</i>
<i>Srotodushti</i>	<i>Sanga, Kshaya</i>
<i>Udbhava Sthana</i>	<i>Amashaya</i>
<i>Sanchara Sthana</i>	<i>Rasavaha Srotas</i>
<i>Adhishthana</i>	<i>Netra</i>
<i>Vyakti Sthana</i>	<i>Akshi Pradesh</i>
<i>Roga Marga</i>	<i>Bahya</i>

**Upadrava (Complications)<sup>12</sup>**

If untreated, *Shushkakshipaka* may lead to:

- Chronic dry eye condition
- Increased ocular sensitivity
- Visual fatigue affecting daily activities
- Recurrent ocular irritation

### **Chikitsa (Management)<sup>13</sup>**

Management of *Shushkakshipaka* focuses on pacifying *Vata–Pitta Dosha* and restoring ocular lubrication.

- *Nidana Parivarjana* (avoid excessive eye strain and screen exposure)
- *Netra Kriyakalpa* such as *Parisheka, Tarpana, Anjana*
- Use of *Sneha* and *Sheeta* drugs
- Internal medications having *Chakshushya* and *Rasayana* properties
- Lifestyle regulation including proper sleep and eye hygiene

### **MODERN REVIEW**

#### **COMPUTER AND VISUAL DISPLAY TERMINAL VISION SYNDROME**

Computer and Visual Display Terminal Vision Syndrome is a modern occupational health problem resulting from prolonged use of digital devices such as computers, laptops, tablets, and smartphones. With increasing dependence on digital screens for work, education, and entertainment, this syndrome has emerged as a common cause of ocular discomfort across all age groups, especially students and office workers. It is considered a functional eye disorder rather than a structural disease, but it significantly affects visual efficiency and quality of life.<sup>14</sup>

The primary cause of Computer and Visual Display Terminal Vision Syndrome is continuous near-work associated with digital screens. Prolonged staring at screens reduces blink rate, leading to instability of the tear film and increased tear evaporation. Improper viewing distance, poor posture, glare, inadequate lighting, uncorrected refractive errors, and prolonged screen time without breaks further aggravate ocular strain. Mental stress and long working hours also play a contributory role.<sup>15</sup>

Clinically, Computer and Visual Display Terminal Vision Syndrome presents with a combination of ocular and extra-ocular symptoms. Ocular symptoms include dryness, burning sensation, irritation, redness, foreign body sensation, watering, eye fatigue, blurred or fluctuating vision, and difficulty in focusing. Extra-ocular symptoms commonly reported are headache, neck pain, shoulder stiffness, and general fatigue. Symptoms usually worsen with prolonged screen exposure and improve with eye rest.<sup>16</sup>

Pathophysiologically, reduced blinking during screen use leads to tear film dysfunction and ocular surface dryness. Continuous accommodation and convergence demand cause fatigue of the ciliary muscles, resulting in accommodative stress and visual discomfort. Glare and high contrast from digital screens further strain the visual system, leading to temporary visual disturbances.<sup>17</sup>

Management of Computer and Visual Display Terminal Vision Syndrome in modern medicine primarily focuses on preventive and symptomatic measures. These include ergonomic correction, maintaining proper screen distance and height, adequate lighting, regular breaks using the 20-20-20 rule, conscious blinking, use of artificial tear lubricants, and correction of refractive errors. Lifestyle modification and visual hygiene play a key role in reducing symptom severity.<sup>18</sup>

Overall, Computer and Visual Display Terminal Vision Syndrome is a lifestyle-related visual disorder that reflects the impact of modern digital habits on ocular health. Its symptom complex closely parallels the Ayurvedic description of *Shushkakshipaka*, making integrative understanding valuable for comprehensive eye care.<sup>19</sup>

## RESULTS AND FINDINGS

- The classical description of *Shushkakshipaka* shows a close resemblance to Computer and Visual Display Terminal Vision Syndrome in terms of causative factors and clinical features.
- Prolonged use of digital devices, reduced blink rate, and continuous near-work were identified as major contributors to ocular dryness and eye strain.
- Predominant symptoms observed in both conditions include dryness, burning sensation, irritation, redness, eye fatigue, blurred vision, and difficulty in sustained visual work.
- *Vata* and *Pitta Dosha* vitiation explains the pathophysiological basis of tear film instability and ocular surface discomfort seen in modern digital eye strain.
- Depletion of *Rasa* and *Rakta Dhatu* correlates with inadequate nourishment and lubrication of ocular tissues.
- Preventive measures such as eye rest, visual hygiene, and lifestyle modification were found to be essential in reducing symptom severity.

- Ayurvedic principles like *Nidana Parivarjana* and *Netra Kriyakalpa* provide a holistic framework for managing digital-related ocular discomfort.

## DISCUSSION

The present review highlights a strong conceptual and clinical correlation between *Shushkakshipaka* and Computer and Visual Display Terminal Vision Syndrome. Classical Ayurvedic texts clearly emphasize that excessive and improper use of the eyes leads to vitiation of *Vata* and *Pitta Dosh*a, resulting in dryness, burning sensation, irritation, and visual fatigue. These pathological changes closely mirror the modern understanding of digital eye strain, where reduced blinking, tear film instability, and accommodative stress are considered primary mechanisms.<sup>20</sup>

From an Ayurvedic perspective, depletion of *Rasa* and *Rakta Dhatu* plays a crucial role in the development of *Shushkakshipaka*. This concept can be correlated with inadequate lubrication and nourishment of ocular tissues observed in Computer and Visual Display Terminal Vision Syndrome. Dysfunction of *Alochaka Pitta* further explains visual discomfort and fluctuating vision. Thus, Ayurveda offers a comprehensive explanation of disease progression by integrating dietary, behavioral, and environmental factors rather than viewing the condition as a localized eye disorder alone.<sup>21</sup>

The discussion also underlines the importance of prevention and holistic management. Modern management primarily focuses on symptomatic relief through lubricating eye drops and ergonomic corrections, whereas Ayurveda emphasizes *Nidana Parivarjana*, regulation of visual habits, and local therapies such as *Netra Kriyakalpa*. This integrative approach not only alleviates symptoms but also addresses the root cause, making Ayurvedic principles highly relevant for long-term management of digital lifestyle-related ocular disorders.<sup>22</sup>

## CONCLUSION

*Shushkakshipaka* can be considered the Ayurvedic counterpart of Computer and Visual Display Terminal Vision Syndrome, as both share similar etiological factors, clinical features, and functional disturbances of the eyes. Excessive digital screen exposure leads to *Vata-Pitta Dosh*a vitiation, impaired ocular lubrication, and visual discomfort, which are well explained in Ayurvedic literature. The Ayurvedic approach, with its emphasis on *Nidana Parivarjana*, lifestyle regulation, and *Netra Kriyakalpa*, offers a holistic and sustainable strategy for prevention and management of this increasingly prevalent digital eye disorder.

**CONFLICT OF INTEREST -NIL**

**SOURCE OF SUPPORT -NONE**

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