

## CONCEPT OF DRY EYE SYNDROME IN AYUREVEDA: A CRITICAL REVIEW

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### ABSTRACT

Dry eye syndrome is a very common condition that is characterized by a disturbance of the tear film. The concept of dry eye does not found in *Ayurveda* as such. But different eye diseases in classics on the basis of their signs and symptoms closely correlate with dry eye are included in this group. *Acharya Sushruta* in eighteenth chapters described five *Kriya-Kalpas* for various ocular disorders. He said that in dryness, roughness, hardness, darkness *Tarpana* therapy is most effective local ocular therapy in which different medicated *Ghruta* or milk used for different type of eye diseases as well as also subside the various symptoms of dry eye disorder.

**KEYWORDS:** Dry eye syndrome, *Sushkakshipaka*, *Shuktika*, *Pothaki*, *Naktandhya*, *Kaphvidagadha Dristi*, *Avranasukra*, *Krichonamilana* (*Vagabhatta*), *Vatajabhisyan* (*KCS*), *Krimigrinhi* (*Blephritis*), *Annuktvyadhi* (*computer vision syndrome*), *Tarpan Therapy* etc.

## INTRODUCTION

Dry eye syndrome is a very common condition that is characterized by a disturbance of the tear film. Tears are a combination of water, for moisture; oils, for lubrication; mucus, for even spreading; and antibodies and special proteins, for resistance to infection. These components are secreted by special glands located around the eye. There are three layers of tear film that is inner mucin layer, middle aqueous and outer lipid layer. This abnormality may result in disruption of the ocular surface, causing a variety of symptoms and signs and interference with quality of life. It represents as pain, light sensitivity, gritty sensation, stringy mucus in or around the eyes; feeling of a foreign body or sand in the eye, itching, redness, blurring of vision etc.

The concept of dry eye does not found in *Ayurveda* as such. But different eye diseases in classics on the basis of their signs and symptoms closely correlate with dry eye are included in this group. Clinical feature of dry eye described in modern ophthalmology may resemble with the various ocular disorder described in *Ayurveda* especially in *Shalakyā Tantra*. There are so many diseases in *Ayurveda* classic which may be closely resemble with dry and may be treated on the basis of clinical signs and symptoms. Some are as follows- *Sushkakshipaka*, *Shuktika*, *Pothaki*, *Naktandhya*, *Kaphvidagadha Dristi*, *Avranasukra*, *Krichonamilana* (*Vagabhatta*), *vatajabhisyand* (*KCS*), *krimigrintha* (*Blephritis*), *annuktvyadhi* (*computer vision syndrome*) having maximum similarity to dry eye described in modern ophthalmology. Detail description of these ocular diseases has been collected from various *Ayurvedic* classic as *Sushruta Samhita*, *Astanga Sangraha*, *Astanga Hridaya*, and *Madhavnidana*.

## DISCRIPTION OF VARIOUS EYE DISEASES RESEMBLING DRY EYE SYNDROME

1. *Sushkakshipaka*<sup>[1]</sup>: In this condition eyes were affected mainly by vitiated *Vata Dosha*. Characteristic of the diseases are dryness, inevitability loss of transparency thickening and wrinkling of the *Vartmakala* or whole eye, blurred vision, inability of closing and opening eye due to thickening of the eyelids (*Blepharospasm*), *Vagabhatta* also added pain, burning sensation and phthisis of the eye ball. It is *Vatika* and *Sadhya* disease and is described in *Sarvagata Roga* by *Acharya Sushruta*. *Acharya Vagabhatta* mentioned it as *Vata-Pittaja Vyadhi*. Treatment used for *Sushkakshipaka* is *Ghrutapana*, *JivantiyadiGhruta Tarpana*, *Anutail Nasya* and *Anjana*.

2. **Avranasukra**<sup>[2]</sup>: The signs and symptoms of *Avranasukra* more closely similar with corneal Xerosis, which is described in modern ophthalmology. Sushruta said that *Avranasukra* is characterized by the appearance of haziness of cornea followed by inhibition of lacrimation. Thus this condition seem to be the nearest to the clinical picture of corneal Xerosis. It is described in *Krishanagata*, *Raktaja* and *Sadhya Roga* as per *Sushruta Samhita*. *Avranasukra* is also called *Sudhasukra* by *Acharya Vagabhatta* and he mentioned it as *Kaphaja Sadhya Vyadhi*. Treatments used for *Avranasukra* are *Siravedana*, *Sirovirechana*, *Pralepa*, *Pariseka*, *Nasya*, *Dhooma* and *Tarpana Karma*.

3. **Shuktika**<sup>[3]</sup>: Dirty white, brownish colours as well as flesh coloured raised spots are situated on the white part of the eye. These spots having lustre of an oyster shell or pearl shell along with dirty glass like appearance of the conjunctiva. *Vagabhatta* said that this disease is associated with diarrhoea, polydipsia and pyrexia including pain and burning sensation in the eye respectively. *Shivdas Shen* has clarified that no pain and burning sensation occur in this diseases. It is *Pittaja Sadhya* disease and is considered as *Shuklagata Roga* according to *Acharya Sushruta*, *Vagabhatta*, *Yogaratanakara*, *Bhavaprakash*. It is correlated with conjunctival xerosis in modern ophthalmology. Treatments used for *Shuktika* are *Sphatika Bhasma*, *Vaidurya*, *Rajata Bhasma*, *Swarana Bhasma*, *Anjana*, *Tarpana Karma* by *Jivantiyadi Ghruta*.

4. **Pothaki**<sup>[4]</sup>: According to *Sushruta* “a number of red and heavy (hard) boils or pustules (*Pidikas*) resembling red mustard seeds appear in the side of the eye lid with pain, itching sensation and exudation from the eye” ( Su. Ut.3/5). According to “*Astanga Hridaya*” the granules (*Pidikas*) are white congested and swelled look like the mustard seeds and are characterized by pain itching mucous discharge from the eye. It is *Kaphaja Sadhya* disease and is described in *Vartamgata Roga* in *Sushruta Samhita*. It is correlated with Trachoma in modern ophthalmology. Treatments used for *Pothaki* are *Chandrodyavritti* and *Lekhana Karma*.

5. **Vatabhisyanda**<sup>[5]</sup>: According to *Acharya Sushruta* *Abhisyanda* is main factor for *Netra Rogas*. It can be correlated with KCS (Sub-acute catarrhal conjunctivitis). It is characterised with hypersensitivity, foreign body sensation, headache, dryness, cold watery discharge. It is considered in *Sarvagata Sadhya Vyadhi*. Treatment used for *Vatabhisyanda* are *Aaschyotana*, *Amalki Phala Rasa*, *Vidalaka*, *Saindhava*, *Daruharidra*, *Gairika*, *Haritaki*, *Rasaanjana*,

*Lodhra Churn with Ghruta, Vidalaka Dharan, Upvasa, Alepa, Swedana, Siravedhana, Virechana, Anjana.*

**6. *Krimigranthi*<sup>[6]</sup>:** It is a *Sandhigata Roga (Pakshama-Vartma Sandhigata)*. It is *Kaphaja Sadhya Vyadhi* described in *Sushruta Samhita*. It is characterised by irritation, small nodules, and inflammation of eye lids. It is correlated with Blepharitis with modern ophthalmology. Treatments used for *Krimigranthi* are *Bhedana Karma* after *Swedana Karma* followed by *Pratisarana* with *Triphala, Tutha, Kashisa* and *Saindhava*.

**7. *Anukta Vyadhi*:** *Anukta Vyadhi* is described in 18<sup>th</sup> chapter of *Sutrasthana* in *Charaka Samhita*. It can be assumed as Computer vision syndrome which is main cause of dry eye syndrome in present era.

### **Ayurveda and Computer vision syndrome (CVS)<sup>[7]</sup>**

Any person using computers for more than couple of hours a day and are experiencing symptoms like redness of eye, pain in eye, reduced lubrication of eye etc may lead to CVS. At this particular time special care of eyes are needed. Ayurveda can help a lot in regaining eye strength, rejuvenating eyes and also make them capable of bearing the day to day stress.

### **Treatment of Computer vision syndrome (CVS) in Ayurveda**

Following are some very effective treatment to cure or prevent CVS.

A. *Netra Tarpana.*

G. *Netra Taila Dharana*

B. *Netra Dhara.*

H. *Virechana*

C. *Aaschyotana.*

I. *Pada Abhyanga*

D. *Bidalaka.*

J. *Netra Gandhoosha*

E. *Netra Sanjeevani.*

K. *Nasya/Shiro virechana.*

F. *Shirodhara/Shiro Abhyangam* and/or *Shiro pichu.*

**8. *Krichonmilana*<sup>[8]</sup>:** It is described by *Vagabhatta*. It is included in *Vartmagata Vyadhi*. It is characterised by severe pain, dryness of eyes, watering, difficulties in opening in eye etc. It is correlates with Blepharospasm in modern ophthalmology. Treatment used for *Krichonmilana* are *Netra Tarpana, Netra Dhara, Aaschyotana, Bidalaka, Netra Sanjeevani* and *Nasya/Shiro-virechana.*

## GENERAL ETIOLOGY OF EYE DISEASES IN AYURVEDA

*Sushruta* and *Vagabhatta* recommended the following aetiological factors of all the diseases which may be summarized as follows.<sup>[9]</sup>

### Different causes of Dry Eyes according to different *Acharyas*

Causes- <i>Sushruta</i>	<i>Vagabhatta</i>
<i>Adi-bal-pravritta</i> (Hereditary)	<i>Sahaja</i> (Hereditary)
<i>Janma-balpravritta</i> (Congenital)	<i>Garbhaja</i> (Congenital )
<i>Dosabala-pravritta</i> (Systemic)	<i>Jataja</i> (Acquired)
<i>Sanghata-bal-pravritta</i> (Traumatic)	<i>Pindaja</i> (Traumatic)
<i>Kal-bal-pravritta</i> (Seasonal)	<i>Kalaja</i> (Seasonal)
<i>Daiva-bal-pravritta</i> (Idiopathic)	<i>Prabhavaja</i> (Idiopathic)
<i>Savbhavaja</i> (Natural)	<i>Savbhavaja</i> (Natural)

*Sushruta* described different predisposing factors for eye diseases which are as follows:<sup>[10]</sup>

1. Immersion in water
2. Gazing at far substances
3. Irregular habits of the day and night hygiene
4. Excessive crying.
5. Anger, grief, suffering, injury, sexual intercourse, excessive use of bitter, sour substances.
6. Suppression of natural urges, excessive sweating, smoking, suppression of vomiting & checking of tears.
7. Concentration of eye to fine & minute objects.

## GENERAL PATHOGENESIS OF EYE DISEASES IN AYURVEDA

*Acharya Sushruta* stated that due to some etiological factors *Doshas* become aggravated & transformed with the method of *Prasara Kriya-Kala* with the help of *Sira* or *Dhamni* and lodges in the eye manifests the diseases of eyes.<sup>[11]</sup>

## PRODOMAL SYMPTOMS (*PURVAROOPA*) OF EYE DISEASES

According to *Acharya Sushruta* prodromal symptoms of eye diseases are cloudiness of vision, slight inflammation, lacrimation, mucous accumulation, heaviness, burning sensation, sucking pain & redness of eyes.<sup>[12]</sup>

## PRINCIPLES OF GENERAL MANAGEMENT OF EYE DISEASES

*Acharya Sushruta* said that the removal of etiological factors is the main principal of treatment of eye diseases that is “**prevention is better than cure**”.<sup>[13]</sup> If cause is removed in earlier stages then the diseases may be cured very easily and effectively.

Regarding the management of bodily ailments including eye diseases, *Sushruta* classification of treatment modalities are as following.<sup>[14]</sup>

1. *Samsodhana chikitisa* (Elimination therapy)
2. *Samshamana chikitisa* (Pacifying therapy)
3. *Ahara chikitisa* (Dietary therapy)
4. *Acharya chikitisa* (Behavioural therapy)

### 1. **SAMSODHANA CHIKITSA**

It is one kind of the process of treatment by which we can eliminate the endogenous causes (i.e. *Vata*, *Pitta* and *Kapha*) of the diseases. It is of two types i.e.

- A. *Antah Parimarjana* (Systemic use of drugs)
- B. *Bahir Parimarjana* (Local use of drugs).

#### A. **ANTAH PARIMARJANA CHIKITISA**

It is a line of treatment by which we can able to eliminate the deranged bodily *Doshas* from the system. In this context *Panchakarma* method like *Vamana*, *Virechana*, *Sirovirechana*, *Vasti*, *Siramokshana* etc. are to be applied.

*Ghruta* should be used for purgation in the eye diseases. *Snehavasti* is advocated in the eye diseases. According to *Sushruta Asthapana Vasti* can also be given for the beneficial effect on the eye diseases among this *Mustadi Vasti* is best.

#### B. **BAHIR PARIMARJANA CHIKITISA**

*Kriya-Kalpa* is one of the specific external remedies of the diseases. They are many types which is described different *Samhitas*:-

A. According to *Acharya Sushruta* it is five in number which is as follows:

1. *Tarpana* (Lubrication),      4. *Anjana* (Collyrium or Ointment),
2. *Putpaka* (Pacifying),      5. *Aaschyotana* (Drops)
3. *Parisheka* (Irrigation)

B. According to *Acharya Charaka* it is three in number which is as follows:

1. *Bidalaka*                      2. *Aaschyotana*                      3. *Anjana*.

C. According to *Acharya Sharangdhara* and *Acharya Bhavamishra* it is seven in number which is as follows:

1. *Seka*                              4. *Putapaka*,                              6. *Pindi*

2. Ashchyotana,
3. Anjana
5. Tarpana
7. Bidalaka

*D.* According to *Acharya Vagabhatta* it is six in number which is as follows:

1. Seka,
2. Aaschyotana,
3. Anjana,
4. Tarpana,
5. Putpaka
6. Bidalaka.

## 2. SAMSHAMANA CHIKITSA

In this process of treatment little amount of *Doshas*, which are so small in amount and difficult to collect and eliminate from the body, are pacified with the help of internal medications.

Following are few medications used internally to pacify the *Doshas* and thereby cure eye disorders.

### 1. *Triphala Churna*<sup>[15]</sup>

*Triphala* is a combination of three fruits which brings *Tridoshas* to *Samyavastha*. *Triphala Churna* was prepared by equal quantity of its ingredients i.e. *Haritaki* (*Terminalia chebula*), *Vibhitaki* (*Terminalia bellerica*) and *Amalaki* (*Embelica officinalis*).

#### Uses of *Triphala Churna*

The action of *Triphala* is more than that of any of its three components because of their synergistic action. It is beneficial in the diseases of eye, wound healing and also used as *Rasayana* in *Meha-Roga* (diabetes mellitus).

According to *Sushruta Samhita*, it improves visual acuity, appetite and cures *Kustha*, *Meha*, and *Vishama Jwara*.<sup>[16]</sup> The above properties are also mentioned in *Bhavaprakash Nighantu* and *Harita Samhita*.

### 2. *Saptamrita Lauha*

This drug has not been described in *Brihatrayi*. But it is widely described in texts of *Rasa-Shastra* and *Chakradutta*.

#### Ingredients of *Saptamrita Lauha*

*Triphala Churna*, *Madhuyasthi*, *Lauha Bhasma*, *Madhu* and *Ghruta* are ingredients of *Saptamrita Lauha*. *Madhu* and *Ghruta* are mixed with powder at the time of drug administration.

### Indications of *Saptamrita Lauha*

In the texts of *Rasa-Shastra* the drug has been mentioned in *Shoola Netrarogadhikara*, *Chakradutta* used *Saptamrita Lauha* for treatment of *Parinamashoola*. It is used in defective vision, *Timira*, *Amlapitta*, *Jwara*, *Kamala*, *Anaha*, *Sotha*. It is also used in Night Blindness, *Patala* diseases, *Kancha*, *Pilla Roga*. It also promotes digestive power and longevity.<sup>[17]</sup>

### 3. *Khadabindu Tail*

In *Bhaishajya Ratanavali* there are two reference of *Khadabindu Tail*. One is in the *Kushtarogadhikara Chikitisa*<sup>[18]</sup> while other one is in *Shirorogadhikara Chikitisa*. In *Shalaky Tantra*, *Khadabindu Tail* is used in the treatment of *Shiroroga*. The medicated *Khadabindu Tail* is prepared according to standard method of *Tail Paaka*. Its dose is 4-6 drops in each nostril.

### Indication of *Khadabindu Tail*

It cure all diseases of head, prevents the falling of hairs and makes them strong and black, it also prevents the teeth from enrooting and makes them strong. Besides these, it also improves the vision.

## DISCUSSION

In different *Ayurvedic* classics concept of dry eye is described in scattered ways. There were many eye diseases, their signs and symptoms closely similar to dry eye. *Acharya Sushruta* in eighteenth chapters described five *Kriya-Kalpas* for various ocular disorders. He said that in dryness, roughness, hardness, darkness *Tarpana* therapy is most effective local ocular therapy in which different medicated *Ghruta* or milk used for different type of eye diseases as well as subside the various symptoms of dry eye disorder.

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