

## CASE STUDY

# Management of Shushkakshipaka (Dry Eye) with Ayurvedic Treatment: A Case Study

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### ABSTRACT

Tear secretion (*Ashru*) is a crucial aspect of ocular surface physiology, ensuring lubrication, nutrition, and defence. Disruption in its quantity or quality can result in *Shushkakshipaka* (dry eye syndrome), characterised by various symptoms of ocular discomfort. If left untreated, it can progress to severe complications such as corneal blindness. The pathogenesis involves multiple contributing factors, including local, systemic, and environmental influences. From an Ayurvedic perspective, the vitiation of *Vata* and *Pitta/Rakta* is central to the development of this condition. Unlike conventional medical approaches that often focus on symptomatic relief, Ayurveda emphasises a holistic and systemic treatment strategy for managing *Shushkakshipaka*. This article presents a case study of a patient successfully managed using an Ayurvedic treatment protocol tailored to address the underlying pathology of dry eye syndrome.

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### INTRODUCTION

*Shushkakshipaka* is described as a *vata* dominating disease by Acharya Sushruta [1], whereas Acharya Vagbhata have described it as *vata pittaja vikara* [2]. Acharya *Sharangadhara* have described it as *vata raktaja vikara*. [3] This absurdity in *Doshas* involvement indicates that Acharyas may have described different stages of the disease pathology (*Samprapti*). For example. The narration of disease *Shushkakshipaka* as per Vagbhata (*Gharsha, Toda, Bheda, Upadeha, Vishushkatva, Shula*) shows the early stage of pathology, while the explanation given by Acharya Susruta (*Kunita Vartma, Daruna-Ruksha Vartma*, etc) points towards the symptoms of full full-fledged condition of the disease with complications. On the basis of these symptoms, it can be correlated with the clinical features of dry eye syndrome. Dry Eye Syndrome is a condition in which the eyes do not produce enough tears or the tears evaporate too quickly, leading to inflammation and irritation of the ocular surface. Leading to Ocular Discomfort ( Burning sensation, Itching, Stinging or scratching sensation, foreign body sensation), Visual Disturbances, redness, reflex watering from eyes, eye fatigue, feeling of dryness, photophobia and non-specific ocular discomfort [4]. It occurs due to Aqueous tear deficiency, Mucin deficiency, dry eye, Lipid deficiency and abnormalities, Impaired eyelid function, Environment, contact lens wear, Ageing process, prolonged screen time, etc [5]. The prevalence of dry eye disease (DED) in India ranges from 18.4% to 54.3%, surpassing the global average. Over the years, the occurrence of DED in India has shown a significant rise, increasing from 29.25% in 2010 to 54.3% in recent times [6]. Ayurvedic treatment of dry eye includes various panchakarma procedures like *snehan & nasya* and lifestyle modifications according to Acharya Charaka [7] *Tarpana* with various medicated *ghritas* and *nasya* according to acharya Sushrut [8]. According to Acharya Vagabhatta, *Shirodhara* and *Shiropichu* are used to balance *Vata* and *Pitta*[9]. Formulations such as *Jivantyadi Ghrita* and *Ksheerbala Taila* are extensively utilised in therapeutic interventions, including *Tarpana* (retention of medicated ghee over the eyes) and *Nasya* (nasal administration). Additionally, lifestyle modifications, such as minimising screen exposure and reducing contact with environmental irritants like dust, are strongly recommended to mitigate risk factors and enhance treatment outcomes [10].

## CASE REPORT

### Patient Information-

Name- ABC

AGE and Sex- 32 Years/Male

OPD No.-

Religion-Hindu

### Chief Complaints-

Itching in both eyes for 20 days

Photophobia

Eye strain for 10 days

**Past History-** No Any

### History of present illness-

The patient, a 29-year-old male, initially presented with good health but gradually developed Itching in both eyes, Photophobia, and eye strain for 20 days. The patient has a history of spending more than 5-7 hours on screen due to his occupation, which leads to worsening of the symptoms. So, the patient sought treatment at Parul Ayurved Hospital.

### Personal History-

Appetite- Normal

Bowel- Regular

Sleep- Normal

Addiction- None

### ON EXAMINATION:

#### General Examinations-

BP- 120/80mmHg

Pulse Rate- 80/min

RR- 15/min

Gait- Normal

Pallor- NA

Clubbing- NA

#### **Astavidha Pariksha:**

*Nadi:* 80/min

*Mala:* 2 times a day

*Mutra:* 4-5 times a day

*Jivha:* Nirama

*Shabda:* Aspshta

*Sparsha:* Samsheetoshna

*Druka:* Nirmala

*Akriti:* Madhyama

#### **Samprapti Ghataka:**

*Dosha:* Vata Pitta

*Dushya:* Rasa, Rakta

*Srotas:* Rasavaha

*Srotodushti:* Sanga

*Adhistana:* Netra

#### **Assessment Criteria:**

1. Schirmer Test
2. Tear film break-up time (TBUT) Test
3. General Ophthalmic Examination
4. Visual Acuity test
5. Ocular Surface Disease Index (OSDI) [11]

**Table 1: Schirmer I Test**

Schirmer -I Test [12]:		Before Treatment		After Treatment	
		Left eye	Right eye	Left eye	Right eye
Schirmer strip wetting >15mm in 5 min	0			✓18mm	
Schirmer strip wetting between 11-15mm in 5 min	1				✓16mm
Schirmer strip wetting between 5-10 mm in 5 min	2	✓9mm	✓7mm		
Schirmer strip wetting <5 mm in 5 min	3				



Figure 2: Schirmer I Test

Figure 1 Schirmer I Test

Table 2: Tear Film Break Up Time (TBUT)

Tear Film Break Up time (TBUT) [13]:		Before Treatment		After Treatment	
		Left eye	Right eye	Left eye	Right eye
>15 seconds	0			✓17 seconds	
11-15 seconds	1	✓14 seconds	✓10 seconds		✓16 seconds
5-10 seconds	2				
Within 5 seconds	3				

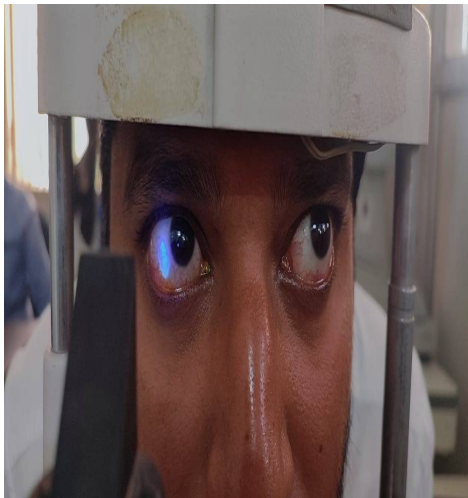


Figure 3: Tear Film Break Up Time



Figure 4: Tear Film Break Up Time

Table 3: General Ocular Examination

General ocular examination	Before Treatment		After Treatment	
	Right eye	Left eye	Right eye	Left eye
Eyelashes	NAD	NAD	NAD	NAD
Eyelids	NAD	NAD	NAD	NAD
Conjunctiva (palpebral)	NAD	NAD	NAD	NAD
Conjunctiva (bulbar)	MILD CONGESTION	MILD CONGESTION	NAD	NAD
Sclera	NAD	NAD	NAD	NAD
Cornea	LUSTRELESS	LUSTRELESS	CLEAR	CLEAR
Pupil	RRR	RRR	RRR	RRR
Lens	TRANSPARENT	TRANSPARENT	TRANSPARENT	TRANSPARENT
Visual Acuity (Distant)	6/18	6/18	6/18	6/18
Visual Acuity with glasses (Distant)	6/6	6/6	6/6	6/6
Visual Acuity (Near)	N6	N6	N6	N6

**Table 4: Ocular Surface Disease Index [14]**

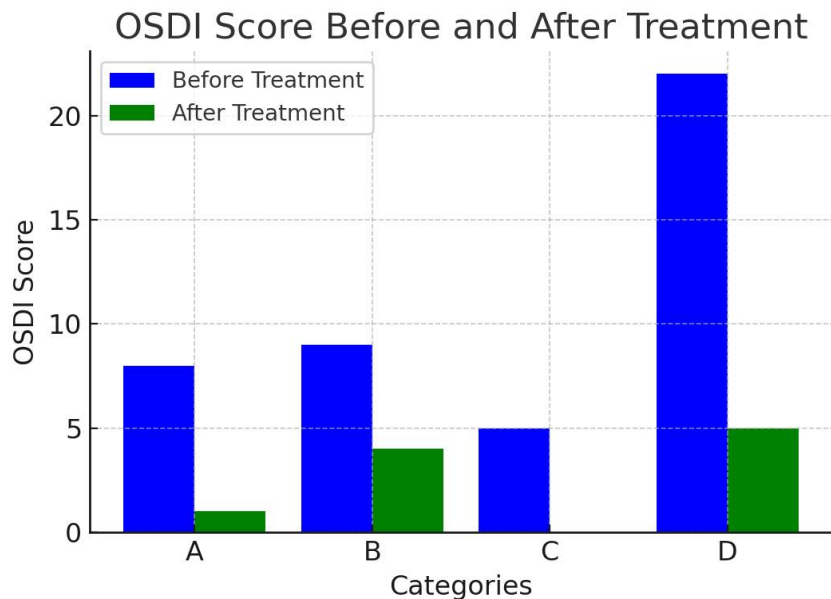
Sr. NO	Have problems with your limited you in performing any of the following during the best week?	All of the time	Most of the time	Half of the time	Some of the time	None of the time	Results	
							Before Treatment	After Treatment
A								
1.	Eyes that are sensitive to light?	4	3	2	1	0	3	1
2.	Eyes that feel gritty?	4	3	2	1	0	2	0
3.	Painful or sore eyes?	4	3	2	1	0	1	0
4.	Blurred vision?	4	3	2	1	0	1	0
5.	Poor vision?	4	3	2	1	0	1	0
Sub total of A							8	1
B								
6.	Reading?	4	3	2	1	0	2	1
7.	Driving at night?	4	3	2	1	0	2	1
8.	Working with a computer or bank machine (ATM)?	4		2	1	0	3	1
9.	Watching TV?	4	3	2	1	0	2	1
Sub Total of B							9	4
C								
10.	Windy conditions?	4	3	2	1	0	0	0
11.	Places or areas with low humidity (very dry)?	4	3	2	1	0	2	0
12.	Areas that are air conditioned?	4	3	2	1	0	3	0
Sub total of C							5	0

**Table 5: OSDI Score**

OSDI SCORE		
	BEFORE TREATMENT	AFTER TREATMENT
A	8	1
B	9	4
C	5	0
D (A+B+C)	22	5
E (No. of questions answered)	12	12
<b>Total score</b>	<b>45.83</b>	<b>10.41</b>

**Scoring Formula:**

$$\text{OSDI Score} = \frac{(\text{Sum of all responses}) \times 25}{\text{Number of questions answered}}$$



**Figure 5: OSDI Score Before and After Treatment**

**Table 6: Interpretation of OSDI Scores**

OSDI Score	Severity Level
0–12	Normal
13–22	Mild Dry Eye
23–32	Moderate Dry Eye
33–100	Severe Dry Eye

**TREATMENT PLAN:****Table 7: Sodhana Treatment**

<i>Shodhana Treatment</i>		
Procedure	Date	Number of days
<i>Urdwajatrugata Abhyanga with tila taila</i>	23/11/24 to 29/11/24	7 days
<i>Sthanik Swedana</i>	23/11/24 to 29/11/24	7 days
<i>Nasya with Anu tail 10-10 drops in each nostril</i>	23/11/24 to 29/11/24	7 days

**Table 8: Kriyakalpa Treatment**

<i>Kriyakalpa Treatment</i>		
Procedure	Date	Number of days
8-8 drops <i>Aschyotan</i> with <i>yashtimadhu+chandana+Triphala+shatavari +patola</i> (equal amount) <i>ksheerpaka</i>	23/11/2024 to 7/12/2024	15 days

**Table 9: Shamana Medicine**

<i>Shamana Medicine</i>			
Medicine	Dose	Anupana	Days
<i>Chitrakadi vati</i>	2 tab (500mg) After food	For sucking	3 days
<i>Mahamanjishthadi kashaya</i>	15 ml once a day Before food	45ml lukewarm water	17 days
<i>Jeevantiyadi Ghrita</i>	1 Tsf HS (After Food)	Luke warm milk	18 days

**Lifestyle modifications:**

Follow the eye exercise protocol for 30 minutes

Follow (20-20-20) rule

The 20-20-20 rule is an easy and practical method to alleviate digital eye strain from prolonged screen use. It involves taking a 20-second break to focus on an object 20 feet away every 20 minutes, helping to relax the eyes and reduce discomfort.

**DISCUSSION**

**Chitrakadi Vati [15]:** Is a herbal formulation with *Deepana* (appetizing), *Pachana* (digestive), and *Shoolaprashamana* (analgesic) properties. It has *Ushna Virya* and is characterised by *Katu, Tikta* and *Lavana* tastes, along with *Laghu* and *Tikshna* attributes. By stimulating *Agni* (Digestive fire), it enhances metabolism, aids in *Ghrita* digestion, and improves the absorption of other therapeutic formulations.

**Abhyang and swedana:** Before administering nasal drops for *Nasya*, the body must be prepared using specific procedures to facilitate toxin elimination. The two primary preparatory methods are *Snehan* (oleation) and *Swedan* (sudation). *Snehan* involves the application of medicated oil to the upper body, including targeted massage over the sinuses, which helps open sinus tracts, mobilise toxins, and soften both superficial and deep tissues. This is followed by *Swedana*, a mild sudation therapy that induces sweating to further loosen toxins. Herbal steam may be used to enhance detoxification, promoting the expulsion of impurities through the nasal route.

**Nasya Therapy for Dry Eyes (shushkashipaka) [16]:**

Applying oil to the nostrils, a practice known as *Nasya*, is believed to activate the lacrimal glands, which play a key role in tear production. This process helps combat dryness and promotes eye hydration.

**Ayurvedic View on Dry Eyes**

In Ayurveda, dry eyes are referred to as *Shushkakshipaka* and are commonly associated with an imbalance in *Vata dosha*. Since *Nasya* therapy helps lubricate the nasal and ocular mucous membranes, it is considered an effective method for restoring balance and alleviating dryness.

**Potential Benefits of Nasya for Dry Eyes**

- Reduces dryness and irritation in the eyes
- Eases eye strain caused by prolonged screen time or environmental factors

- Enhances tear film stability, improving overall eye hydration
- May relieve sinus congestion, which can indirectly contribute to dry eyes

Among the various herbal formulations used in Nasya therapy, *Anutaila Nasya* is particularly effective in stimulating natural tear production and maintaining a stable tear film, ensuring long-lasting eye comfort.

**Preparation and Administration of Ksheerapaka for Ophthalmic Use:** A *ksheerapaka* formulation was prepared using 1 L of water, 250 mL of milk, and 321.5g of *Yashtimadhu*, *Chandana*, *Triphala*, *Shatavari*, and *Patola* (equal parts). A decoction was first prepared, to which milk was added and reduced to 250 mL before thorough filtration. This freshly prepared extract was instilled as *Aschyotana* (eye drops), eight drops in each eye, twice daily for 15 days. In Ayurveda, the tear film comprises an aqueous part from *Rasa Dhatu* and a non-aqueous part from *Mamsa* and *Medho Dhatu*. An imbalance in *Vata* and *Pitta* dosha destabilises the tear film, leading to *Shushkakshipaka*, characterised by irritation, pricking pain, sticky eyes, difficulty blinking, and a craving for coolness. Classical texts like *Sharangadhar Samhita* recommend *Ksheerapaka Seka*, while Acharya Sushruta prescribes *Aschyotana* (ocular drops) [18]. The selected *Aschyotana* formulation, due to its amphiphilic nature, effectively crosses ocular barriers, nourishes eye structures, and restores tear film stability [17].

**Mahamanjishtadi Kashayam:** is a herbal formulation that balances Pitta dosha with its astringent, bitter, and cooling properties. Its key ingredient *Manjistha*, supports blood purification, lymphatic detoxification, and cellular metabolism, aiding in the elimination of metabolic toxins. It also helps break down *Ama* (disease-causing complexes) and is particularly beneficial in managing *Netra Rogas* (ocular disorders) by reducing oxidative stress and promoting eye health [19].

**Jeevantiyadi ghrita:** was selected for the present study, which is specially mentioned by Sushruta acharya in the context of *Shushkakshipaka* chikitsa. *Jivantiyadi Ghrita*, made with cow's ghee, is rich in essential nutrients and easily digestible fats. It contains carotene, vitamins A, E, D, and K, all of which support eye health. With its *Vata*, *Pitta*, and *Kapha*-balancing properties, this formulation helps pacify *Shushkakshipaka* (dry eye syndrome), a *Vata*-dominant disorder, by nourishing and protecting the eyes.

## CONCLUSION

The present study establishes a strong correlation between *Shushkakshipaka* described in Ayurvedic texts, and Dry Eye Syndrome in modern ophthalmology. The variation in doshic involvement as described by different Acharyas suggests a progressive pathological evolution of the disease. Clinical symptoms of *Shushkakshipaka*, such as ocular discomfort, dryness, and visual disturbances, closely align with those observed in Dry Eye Syndrome. The treatment approach in Ayurveda, including *Nasya*, *Tarpana*, and *Kriyakalpa*, aims to restore ocular lubrication and stability by addressing *Vata-Pitta* imbalances. The therapeutic interventions, such as *Jivantiyadi Ghrita*, *Anutaila Nasya*, and *Mahamanjishtadi Kashaya*, and *patoladi ksheerapaka aschyotana* along with lifestyle modifications like the 20-20-20 rule, have shown significant improvement in clinical parameters, including Schirmer's test, TBUT, and OSDI scores. Thus, Ayurvedic management provides a holistic and effective approach in mitigating symptoms of *Shushkakshipaka*/Dry Eye Syndrome, highlighting its potential as a complementary therapy for modern ophthalmological care. Further research and clinical trials are warranted to validate these findings and integrate Ayurvedic interventions into mainstream eye care.

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