

**KRIYAKALPA- A PANACEA FOR NETRAROGAS**Dr. Shivani Kapurkar<sup>1\*</sup> and Dr. Ch. Ramadevi<sup>2</sup><sup>1</sup>PG Scholar, Dr. BRKR Government Ayurvedic Medical College and Hospital, Erragadda, Hyderabad.<sup>2</sup>Professor & H.O.D Department of Shalakyatantra, Dr. BRKR Government Ayurvedic Medical College and Hospital, Erragadda, Hyderabad.

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**ABSTRACT**

In *Ayurveda*, *Shalakyatantra* is one among the eight branches of *Ashtang Ayurveda*, which focuses on diseases above the clavicle, with prime emphasis on eye care. "*Sarvendriyanam Nayanam Pradhanam*" the eye is ranked as one of the most important organ by all Acharyas. As the *Netra* (eye) is a very vital and sensitive organ of the body it is necessary to maintain the health of eyes and protect them. There is no specific treatment for any organ mentioned, *Kriyakalpa* are a unique treatment modality known as *Bahyaparimarjana Chikitsa*, was described, and elaborated to deal specifically with problems and diseases of the eyes. It is a method of administering topical treatments, in or around the eyeball, which is crucial in managing ophthalmic disorders, offering effective therapeutic procedures. *Acharya Sushruta*, explained *Seka, Aschyotana, Tarpana, Putapaka* *Acharya Charaka* said only three *Bidalaka, Aschyotana, Anjana* additionally, *Sharangadhara & Bhavamishra* added *Bidalaka, Pindi* This holistic approach underscores *Ayurvedic* ocular therapeutics for preventive and curative measures.

**KEYWORDS:** *Akshitarpan, Kriyakalpa, Netra, Pindi.***INTRODUCTION**

As quoted by *Acharya Vagbhata*, eyes are considered the "windows to the soul," emphasizing that for individuals without eyes, there will be no difference between day and night.<sup>[1]</sup> Eyes hold unparalleled significance in every individual's life, serving as vital organs that play a pivotal role in acquiring knowledge, participating in social interactions, and fostering intellectual development through the sense of vision. So, it is necessary to take care to the eye for functioning and its wellbeing. *Kriyakalpa* specifically addresses both the preventive and curative aspects of eye care, serving as a localized therapeutic procedure. The term *Kriyakalpa* is composed of two elements: *Kriya*, which refers to therapeutic procedures for treating diseases, and *Kalpa*, signifying the specific medicine or formulation chosen for a particular ailment. Falling under the category of *Bahyaparimarjana Chikitsa*, *Kriyakalpa* offers distinctive advantages. In contrast to *Panchakarma* procedures, which are part of *Antahparimarjana Chikitsa* focusing on internal organ purification, *Kriyakalpa* is uniquely tailored to address issues related to the eyes. *Acharya Sushruta* elaborates on five *kriyakalpas* – *Tarpana, Putapaka, Anjana, Aschyotana, and Seka*.<sup>[2]</sup> *Acharya Sharangdhar* expands the list to seven *kriyakalpas*, encompassing the five mentioned by *Acharya Sushruta*, along with *Pindi* and *Bidalaka*<sup>[3]</sup> while

*Acharya Charaka* enumerates three *kriyakalpas*, namely *Anjana, Bidalaka, and Aschyotana*.<sup>[4]</sup>

The importance of delivering drugs to the internal ocular structures remains a crucial area of study, particularly due to the eye's distinct immune privileges, which create obstacles for systemic injections. The ocular surface, consisting of diverse tissues and glands, provides a varied terrain for drug delivery and absorption. *Kriyakalpa*, a traditional local ocular therapeutic approach prescribed by our Acharyas, involves specific techniques for administering drugs directly to the eyes to treat ocular diseases. This method not only tackles eye disorders but also nourishes the eyes and improves visual acuity.

**AIM AND OBJECTIVES**

To study the comprehensive and holistic approach of *Kriyakalpa* in promoting eye health and addressing ocular care.

**MATERIALS AND METHODS**

The overall data is collected from *Ayurveda* text and related sources to present in a proper manner.

### KRIYAKALPA TARPANA

Retention of medicated *sneha* over the eyes for a designated period by support of ring made of *masha* dough around the eye.

**Indications:** *Shushkata* (dryness), *Prakasha asahata* (photophobia), *Kricchronmminmilan* (difficulty in closing eyelids), *Sirotkata* (hyperaemia of eye), *Arjuna* (subconjunctival haemorrhage), *Abhishyand* (conjunctivitis), *dhimanta* (glaucoma), *Timira* (myopia) and in *Vata-Pitta Dosh* predominance.<sup>[5,6]</sup> *Tarpana* duration according to *Dosha* (table1) & *Adhithana* (table2)-

Table 1:<sup>[7]</sup>

DOSHA	MATRAKALA
Vataja	1000
Pittaja	800
Kaphaja	600

Table 2:<sup>[7]</sup>

ADHISTHANA	MATRAKALA
Vartmagata roga	100
Sandhigata roga	300
Shuklagata roga	500
Krishnagata roga	700
Drishtigata roga	800
Sarvagata roga	1000

Table 4:<sup>[9]</sup>

TYPE OF SEKA	DOSHA PREDOMINANT	KALA
Snehana	kaphaja Roga	200 matrakala
Lekhana	Vataja Roga	400 matrakala
Ropana	Pittaja and Raktaja Roga	600 matrakala

### MODE OF ACTION

Drug absorption through the skin occurs simultaneously with a certain degree of direct diffusion. This process eliminates surface pathogens and, as a consequence, results in a higher rate of drug disposal with reduced bioavailability. Moreover, it aids in diminishing inflammation by facilitating drainage.

### ASCHYOTANA

Instillation of medicated drops from the height of 2 *angulas*. First line of treatment for all eye diseases like inflammation, congestion, burning sensation, excessive lacrimation, pricking pain. *Dharan kala* 100 *matrakala*.

### PUTAPAKA

Pouring of lukewarm medicated *swarasa* along with fats, over the eye by *putapaka vidhi*. The indications and mode of action is similar as *tarpana*. Types and duration of *putapaka* are mentioned in (table 3).

Table 3:<sup>[8]</sup>

TYPES	INDICATION	MATRAKALA
Lekhana	Kaphaj	100
Snehana	Vataj	200
Ropana	Pitta-raktaj	300

### TARPANA & PUTAKAPAKA MODE OF ACTION

Drug/Medicated *Sneha*, fat (lipophilic) & water soluble *swarasa/Kashaya* (hydrophilic)

↓  
Direct contact to cornea is made (epithelium & endothelium is lipophilic)  
(stroma – hydrophilic)

↓  
Drug absorption to ant. Lens capsule, ciliary muscles and other tissue

↓  
More contact time of *tarpana*, more absorption  
Desired therapeutic action

↓  
Relieves the symptoms.

### SEKA/PARISEKA

Pouring of a thin and continuous flow of medicated fluid over the closed eye from a height of 4 *Angulas* for a specified duration. Types and duration is explained in the table 4.

Table 5:<sup>[10]</sup>

TYPES	DOSHA	MATRA
Lekhana	Kaphaja	7-8 drops
Snehana	Vataja	10 drops
Ropana	Pitta & raktaja	12 drops

### MODE OF ACTION

The drug is absorbed through direct diffusion via conjunctival vascularity and permeation through the cornea. Although it offers improved compliance, this method has a shorter tissue contact time due to dilution with tears.

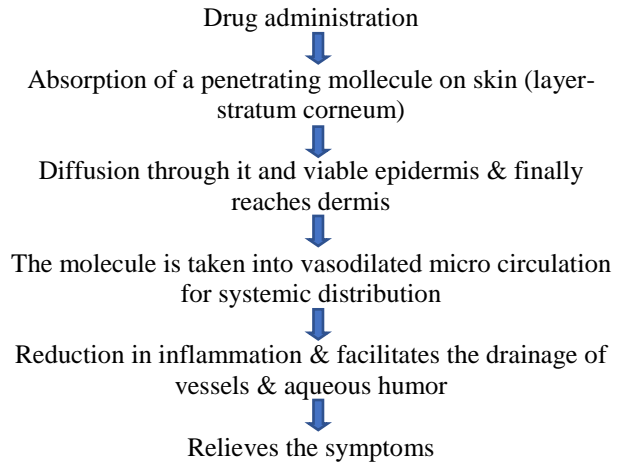
**PINDI**

Application of medicated paste in the form of poultice over the closed eye. Used in initial stages of all *netrarogas*.

**Indications:** *Abhishyand, Netragatvrana, Adhimanta, Netrashotha, Netrakandu, Netrashula, vata-kaphaj netraroga*.<sup>[11]</sup>

**BIDALAKA**

Application of medicated paste over the closed eyelid excluding the eye lashes.<sup>[12]</sup> Indicated in acute eye conditions like burning sensation, swelling, discharge, redness, pain, FB sensation.<sup>[13]</sup>



**ANJANA**

Application of medicinal paste in inner surface of lower eyelid in conjunctival fornix from *kaninika* to *apanga sandhi*.<sup>[14]</sup> There are 3 types of Anjana along with dosage explained in table 6.

Table 6:

TYPES	LEKHANA	PRASADANA	ROPANA
Rasakriya	1 harenu	1 ½ harenu	2 harenu
Gutika	1 harenu	1 ½ harenu	2 harenu
Churna	2 shalaka	4 shalaka	3 shalaka

**Mode of action Anjana**

Directly in contact to lid margin, conjunctiva and then cornea

Once it traverses the conjunctiva, the sclera becomes more permeable

Facilitating the penetration of the drug

Internal eye structures, including the ciliary body, iris, aqueous humor, lens, and vitreous humor

Relieves the symptoms

necessary criteria for drug absorption and affirms its potential effectiveness. It is primarily utilized in the form of aqueous solutions poured directly onto closed lids, emerging as a predominant technique. These solutions, predominantly composed of *Kashayas, Ksheera,* and *Ghritha,* exhibit a balanced mix of hydrophilic and lipophilic properties, facilitating absorption through both the cornea and conjunctiva.

*Anjana* acts as a foreign body on the ocular surface, triggering a reflex secretion in response to foreign particles found in the cornea and conjunctiva. Although a notable quantity of pharmaceuticals is washed away from the eye by tears, a substantial portion is drained into the nasolacrimal duct. Within this duct, there exists the potential for absorption into the systemic circulation through the nasolaryngeal and oral mucosa, with a minor fraction undergoing digestion by tear enzymes. The utilization of *Gutika* and *Choorana* for *Anjana* proves more advantageous due to their nanoparticle content, enhancing bioavailability and improving ocular absorption. The absorption of *Anjana* in the eyes may initiate through the conjunctiva and cornea. Once it traverses the conjunctiva, the sclera becomes more permeable, facilitating the penetration of the drug into other internal eye structures, including the ciliary body, iris, aqueous humor, lens, and vitreous humor. Nevertheless, the heightened vascularization of the

**RESULT AND DISCUSSION**

*Tarpana* proves to be a more effective therapy compared to solely using eye drops. Operating on the principle of *Bahya Snehana,* it demonstrates the ability to traverse the protective barriers in the eye for absorption. It nourishes both ocular and periocular structures while simultaneously fortifying the sphincters. Additionally, owing to the specific choice of drug employed in *Tarpana,* it directly supplies nutrition to the target organ.

Administering *Seka* on closed eyes proves beneficial in preventing irritation of ocular structures, aiding in the maintenance of the required drug concentration. Despite a greater disposal rate linked to pouring medicine in a thin stream over the closed eye, this method meets all the

conjunctiva, ciliary body, and iris leads to a significant portion of the drug re-entering the systemic circulation.

**Pindi** and **Bidalaka** are considered effective and convenient methods for drug absorption into the eyes, particularly in the anterior segment, especially during the initial stage of a disease (*Ama*-condition). These procedures contribute to the prolonged retention of medicines over the eyelid, ensuring controlled absorption through this area. *Pindi* and *Bidalaka yogas* are typically prepared in a liquid medium. Consequently, the hydrophilic component is absorbed into the intracellular domain, while any lipophilic part present undergoes absorption through the intercellular route, entering the microcirculation. This underscores the significance of hydration for the absorption of molecules. In the *Paschath karma* of *Bidalaka*, it is specified that after the removal of *Lepa*, the lid should be anointed with oil, facilitating the rapid uptake of the lipophilic component through the intercellular route. The absorption during *Pindi* may be higher than *Bidalaka*, considering the additional influence of a pressure factor, among other factors.

## CONCLUSION

*Kriyakalpas* are the *bahiparimarjana chikitsa* have the superiority over internal medicine in overcoming barriers like blood vitreous, blood aqueous and blood retinal barriers. The faster action of *kriyakalpas* compared to internal medicine and their bypassing of digestive processes contribute to their efficacy. *Bhrajaka pitta's* role in *kriyakalpas* is significant, and the control of tissue contact time allows for tailored treatment based on disease location, stage, and severity. Specific procedures like *Aschyotana*, *Seka*, *Pindi*, and *Bidalaka* prove effective for anterior segment disorders, while *Anjana*, *Putapaka*, and *Tarpana* are suited for diseases in the posterior segment, especially in non-inflammatory conditions.

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