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Review Article

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### Clinical Significance and Biological Mechanism of “Netea Kriya Kalpa”

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#### Abstract

Ayurveda is conventional way of health management which prevents and treats many diseases. Ayurveda described approaches of healthy living and suggests approaches for restoring health of sense organs. As per Ayurveda eyes is most vital organs amongst the other sense organs. Eye as sense organ of body considered as most precious gift of god. The diseases related to the organs of *Urdhwajatrugata sthana* are described as *Urdhwajatrugata vyadhis* which includes diseases of ear, eyes and nose, etc. The diseases of eye described as *Netra-Roga* and Ayurveda suggested many options for curing *Netra-Roga* and *Kriyakalpa* is one of them. *Netra Kriyakalpa* is therapeutic process for curing *Netra rogas*. *Netra Kriyakalpa* utilizes various cleaning and medicinal procedures for eye to maintain normal health status of eye. *Netra Kriyakalpa* helps to prevents and treat diseases of eye and can be practiced in routine life. Present article explored clinical significance and biological mechanism of “*Netea Kriya Kalpa*”.

**Keywords:** Ayurveda, Netra-Roga, Kriyakalpa, Urdhwajatrugata vyadhis

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#### 1. Introduction

The ancient sage presented various principles and these all principles and theories forms basis of Ayurveda science. Ayurveda focuses towards the curing of disease including *Urdhwajatrugata vyadis* which are the diseases of *Urdhwajatrugata Sthana* mainly related with sense organs. The disease of eye, ear and nose, etc. are comes under the heading of *Urdhwajatrugata vyadis*, amongst them diseases of eye are considered very sensitive pathological conditions. (1-4)

Ayurveda advocated *Kriyakalpa* as therapeutic process for *Netra roga* which not only prevent diseases of eye but also helps to treat eye disorders, *Kriyakalpa* if performed in routine practice then it helps to retain normal health status of eye and promote strength of eye.

*Ayurvedic samhitas* also described local treatment for *Netraroga* and *Kriyakalpa* is amongst them. The specific drugs used for particular procedure of *Kriyakalpa* which is performed as *Bahyaparimarjan Chikitsa* for *Netraroga*. (3-6)

#### 2. Advantages of Kriyakalpa in Netraroga:

- ✚ Quick relief due to the fast absorption of drug

- ✚ Easy and simple procedure
- ✚ Less invasive and non-surgical approach
- ✚ No complication and side effects
- ✚ Local effects of therapy for prolong period of time
- ✚ Economic and wide range of options for different types of diseases.

*Kriyakalpa* is basic therapeutic procedure for ophthalmic disorders, as a cleaning measure it offers several advantages. There are various types of *Kiyakalpas* procedures as mentioned in Figure 1.

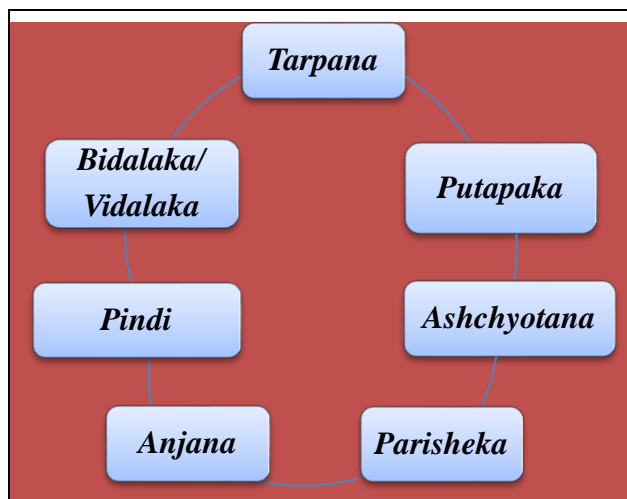
#### Tarpana:

*Tarpana* gives nourishment to eyes & helps to cures disease of *Vata & Pitta* vitiation. Medicated *Ghee*, *Majja* and *Vasa*, etc. are kept around the eyes for particular period of time.

#### Putapaka:

The *Putapaka* differ with *Tarpana* in reference to the preparation of medicines. The *Swarasa* extracted by *Putapaka Vidhi* and used that after, there are different

types of *Putapaka* namely; *Snehana*, *Ropana* & *Lekhana*.



**Figure 1.** Various types of *Kiyakalpas* procedures

#### **Seka:**

*Seka* is used for acute problem of eye, in this process medicine poured on closed eyes from the heights of four *Angul* continuously for a particular time period.

#### **Aschyotana:**

*Aschyotana* means instillation of drops of medicine into the eyes from the two *Angul* heights; indicated for many eye diseases including acute as well as chronic conditions.

#### **Pindi:**

*Pindi* involves application of drug paste over the eyelids with the help of cotton or *Doshghna* leaves. *Pindi* used in conditions like; *Adhimantha*, *Netrabhishyanda*, *Sotha*, *Kaphaja Netraroga* and *Netrakandu*, etc.

#### **Bidalaka:**

*Bidalaka* involves application of medicated paste over the surface of eyes mainly on eyelids. *Bidalaka* are of three types; *Uttam*, *Madhyam* & *Heena* on the basis of thickness of paste of medicines. *Bidalaka* helps to relieve discharge, burning sensation, tearing, redness, itching and swelling, etc.

#### **Anjana:**

*Anjana* involves application of drug into the internal surface of lid margin (from *Kaninika sandhi* to *Apanga sandhi*) using *Anjana Shalaka*. *Anjana* are different types according to action of drugs; *Lekhanajana*, *Ropananjana* and *Prasadanjana*. (6-9)

- *Lekhanajana* is indicated for *Kapha* predominant disease.
- *Ropananjana* gives strength to the eyes.
- *Prasadanjana* is used for soothing and calming effects.

### **3. Mode of Action of *Kriya Kalpa***

In *Tarpana Ghee* is used as medicine in the form of suspension thus contact time of drug is more, due to which more drugs absorbed. The lipophilic property of

formulation helps to cross corneal epithelium barrier and exerts therapeutic responses.

*Putpaka* possess same mechanism as like *Tarpana* but absorption is more since it is suspension of fat and water contents thus offers lipophilic as well as hydrophilic properties and imparts optimum penetration and absorption.

In *Seka* medicine is absorbed *via* skin thus offers local action and delayed response. In *Aschyotana* the quick response observed since medicated drops are put into eye directly, but contact time is less and drug get diluted with tears.

In *Anjana* the bioavailability of drug increases since medicine applied to the internal surface of lid margin due to which overall tissue contact time increases.

In *Pindi* medicated paste absorbed through skin and heat of poultice increases local temperature which causes vasodilatation and increases penetration as well as absorption of drugs.

In *Bidalaka* medicine is absorbed through skin and mechanical effect of procedure causes vasodilatation, medication reaches to conjunctival sac, inner & outer canthus, blood vessels and offers local as well as systemic relief. (9-11)

### **4. Modern Perspectives**

Drugs applied on mucous membrane of conjunctiva absorbed readily since mucous membrane shows good absorption pattern. *Bidalaka* & *Pindi* offers therapeutic action by virtue of dermis which is freely permeable to drugs. The lipophilic behavior of some drug helps in their absorption through lipophilic membrane. Drugs in the form of solution get dissolved totally and offer quick response and bio-availability but tissue contact time reduces as observed in *Aschyotana* & *Seka*.

*Anjana* offers good bioavailability of drugs due to the direct tissue contact. The absorption and bioavailability of drugs also increases in *Tarpana* & *Putapaka* since drug particles not leave quickly and remain in contact with tissue for longer period of time. The delayed and

prolong action gives better local response in acute as well as chronic condition. The lipophilic & hydrophilic drug used in some procedure can penetrate all the layers of cornea. The absorption of drug also depends upon vascularity of absorbing surface, in *Poorvakarma* of *Kriyakalpa* the procedures like *Snehana* and *swedana* performed which increases blood flow and vascularity of absorbing surface thus water soluble drugs absorbed easily *via* vessel wall.

Considering these all aspects when blood vessels are not involved in disease then *Aschyotana* & *Seka* can be performed. *Tarpana* & *Aschyotana* with *Ghrta* used for *Vata- Pitta* predominant diseases. Fat soluble substances mainly used in *Tarpana* & *Putapaka* which kept drug for longer duration.

### 5. Therapeutic Uses of *Netra Kriya Kalpa*:

- ✚ Provides nourishment to the eyes thus empower eye strength
- ✚ Cleans eye and prevent dryness
- ✚ Cures *vata – pitta vikara* of eye
- ✚ *Netra Kriya Kalpa* used for *Rukshta*, *Tamiyati*, *Sushka-netra*, *Pakshmpat* and *Ati-Rogunta*.
- ✚ *Pindi* is used in *Abhishyandha* and *Adhimanth*.
- ✚ *Netra Kriya Kalpa* improves vision and prevents common infections of eye.

### 6. Conclusion

*Kriyakalpas* is Ayurvedic ophthalmology which offers various route of drug administration thus provides variable pattern of drug absorption and bio-availability. The selection of drug in *Kriyakalpas* merely depends upon the procedure of *Kriyakalpa* and involvement of *Doshas* in disease. *Kriya kalpa* is considered as important therapeutic procedure for *Netra roga* since it offers several advantages such as quick action, fast and prolong absorption of drug, easy to perform, non-surgical approach and no severe complication. *Kriya kalpa* in *Netra roga* offers local therapeutic response for prolong period of time and can be used for treating different types of eye problems.

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### Conflict of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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