



A REVIEW ON TARPANA KARMA – A LOCAL OCULAR THERAPEUTICS IN AYURVEDA

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ABSTRACT

Kriyakalpa is the mainstay treatment in *ShalakyaTantra*. These procedures are indicated in almost all ocular disorders. In spite of various advances in modern Ophthalmology the effective control is still a challenge. In *Tarpana* procedures indications, contraindications, dose schedule, frequency are already been mentioned by ancient *Acharya*. These procedures are used for prevention and treatment of ocular diseases having no or less side effects. So it is essential to establish the principle and practices of ancient local ocular therapeutics to preserve vision. An effort is made to compile *Kriyakalpa* procedures in light of modern local ocular route of drug administration in Ophthalmology.

Key word: *Kriyakalpa*, *Tarpana* therapy, Route of drug administration.

INTRODUCTION-

As per *Ayurveda* all efforts should be done to preserve vision till death as for a blind day and night becomes equal and beautiful world becomes useless even if he has a lot of wealth¹. In spite of various advances in modern ophthalmology there are various challenging problems which forced them to look towards therapeutic procedures described in *Ayurveda*. *Shalakyatantra* is one of the branch of *Astanga Ayurveda*². Local therapeutic procedures play a major role due to limitation of systemic therapy of blood – ocular barriers³.

Kriyakalpa

Kriya: *Kridhatu* + *sapratyaya*. *Kriya* means to practice or to perform medical treatment.

Kalpa: *Klipdhatu* + *ghnapratyaya*. *Kalpa* means treatment or proper method of curing the disease. So *Kriyakalpa* means to perform proper treatment.

Table 1: Classification of Kriyakalpa

<i>Kriyakalpas</i>	C.S.	S.S.	A.S.	Sha.S.
<i>Tarpana</i>	+	+	+	+
<i>Putapaka</i>	-	+	+	+
<i>Seka</i>	-	+	+	+
<i>Ashyotana</i>	+	+	+	+
<i>Anjana</i>	+	+	+	+
<i>Pindi</i>	-	-	-	+
<i>Vidalaka</i>	-	-	+	+

C.S.=Charak Samhita, S.S.= Sushruta Samhita, A.S. = Astanga Sangraha, Sha.S. = Sharangadhara Samhita.

Table 2 :Kriyakalpa in Ayurveda

<i>Kriyakalpas</i>	Formulations used
<i>Tarpana</i>	Medicated Ghee
<i>Putapaka</i>	Plant extract after closed chamber combustion (<i>Putapaka Swarasa</i>)
<i>Seka</i>	Decoction of raw drugs
<i>Ashyotana</i>	Decoction/juice of raw drugs
<i>Anjana</i>	Linctuses of drugs of different origin
<i>Pindi</i>	Poultice of different parts of a plant
<i>Bidalaka</i>	Paste of raw drugs applied over the lids except eye lashes

Tarpana-

The word *Tarpana* is derived from the root 'Trup' by adding the 'Lyut'pratyaya. The literary meaning of *Tarpana* is to give nourishment of the eye.

Kriyakalpas are special procedures of ocular local drug administration used for the prevention and treatment of eye diseases. It provides nourishing effect to the eyes⁴. These are specifically designed according to the stage and severity of the diseases. *Acharya Susruta* has mentioned five *Kriyakalpas*⁵ i.e. *tarpana*, *putapaka*, *seka*, *ashyotana*, *anjana*. *Sharangdhar*⁶ added two more *Kriyakalpas* i.e. *Pindi* and *Vidalaka*. *Sharangadhara* developed these procedures as *NetraPrasadana karma*⁷. *Kriyakalpa* procedures includes *purvakarma* (Pre-treatment), *pradhanakarma* (Main *Kriyakalpa* treatment) and *paschatakarma* (Post treatment). In *purvakarma panchkarma* procedures are done to remove vitiated *doshas*. Then *Kriyakalpa* procedures are done to remove the *doshas* locally and provides nourishing effect to the eyes⁴. In *paschat karma sansarjana karma* (dietary regimen) are followed.

So *Tarpana* procedures nourishes the eye and cures *vata-pitta* predominant diseases⁸. In this procedure *ghrita*, *ghritamanda*, medicated *ghrita*, *Vasa*, *Majja* etc is kept over the eyes encircled

with firm, compact, leak proof wall made up of paste of powder *masha* pulse (black gram) for a specific period of time⁹.

Indication of *Tarpan karma*¹⁰

- Darkness in front of eyes
- Severe dryness of eyes
- Roughness of eyes
- Stiffness of lids.
- Falling of eye lashes

Various *AusadhaDharankala* described in *Ayurveda* classics is as follows:

Table 3: *Ausadhadharan Kala* (As per site of lesion)¹²

Site of lesion	<i>Ausadhadharan Kala</i>
<i>Sandhigata</i>	300 matra
<i>Vartmagata</i>	100 matra
<i>Shuklagata</i>	500 matra
<i>Krisnagata</i>	700 matra
<i>Dristigata</i>	800/ 1000 matra
<i>Sarvagata</i>	1000 matra

Table 4 :*Ausadhadharan Kala* (As per *Dosha* predominance)-¹³

Dosha predominance	<i>Ausadhadharan Kala</i>
VatajaRoga	1000 matra for one day
PittajaRoga	800 matra for three days
KaphajaRoga	600 matra for five days

Contraindication of *Tarpana Karma*-

Tarpana is contraindicated in cloudy day, excessive hot/ cold climate, worry, anxiety, giddiness, acute pain conditions and complications of ocular diseases¹⁴.

Procedure of *Tarpana Karma*-

The patient lies supine in a room which is free from direct sunlight, wind and dust. Eyes given mild fomentation and encircled with leak proof wall made up of paste of *Masha* pulse (black gram). The medicated melted *ghrita* is poured very slowly over the closed lids till the entire lashes dips in the *ghrita*. Patient is asked to open and close his/her lids slowly. After stipulated time *ghrita* is drained out and eyes are washed with lukewarm water. Then *dhoomapana* (medicated smoke) is given. The patient is advised to avoid direct exposure to sunlight, excessive hot and cold climates direct wind¹⁵.

- Dirtiness of eyes
- Deviated eye ball

Vagbhat added *Krichhronmilan, siraharsa, sirotpata, Arjuna, Sukra, Timira, Abhisyanda, Abhisyanda, Anatovatanvataparyaya, vata- paitika* diseases and eye injuries due to *abhighata*¹¹.

Signs and symptoms of proper *Tarpana*-

Sound sleep with proper awakening, Absence of secretions, Normal vision, proper recognition of colours, feeling of lightness in eyes, proper functioning of eyes, easily tolerate sunlight are signs and symptoms of proper *Tarpana*¹⁶.

Complications of excessive / inadequate *Tarpana*-

Excessive *Tarpana* results in heaviness in eyes, improper vision, excessive oily surface, lacrimation, Itching, stickiness and aggravation of *doshas*. Insufficient *Tarpana* results in Dryness of vision, improper vision, excessive lacrimation, photophobia, aggravation of the diseases¹⁷.

Treatment of inadequate and improper *Tarpana*-

As per the predominance of *doshas dhoomapana, Nasya, Anjana, seka* are given to treat the above two conditions¹⁸.

Modern aspect of *Tarpana Karma*-

In *Tarpana karma* medicated *ghrita* are used. *Ghrita* has *Sanskaranuvarti Guna* and supreme among all *Snehavargas*. So medicated *ghrita* used in *Tarpanakarma* is very effective in *Vataja-Pittaja* diseases¹⁹. The mode of action of *Tarpana karma* can be understood in light of modern ocular pharmacology²⁰.

- Route of drug administration
- Solubility and bioavailability
- Absorbing surface
- Vascularity and absorbing surface
- Physical state of drug
- Ionic charge

Routes of drug administrations-

Mucosal and cutaneous routes are used in *Tarpana karma*. These are very good absorbing surfaces.

Solubility and Bioavailability-

Drug will be absorbed easily through mucus membrane and skin with both water and lipid solution. In suspension the drug is present as small particles kept suspended in aqueous medium by a dispersing agent (example medicated ghee). In *Tarpana karma* medicated *ghee* is kept in contact with skin and mucous surface for long time which increases tissue contact time thus absorption.

Absorbing surface-

In *Tarpana karma* conjunctiva and cornea forms the absorbing surfaces. So medicated drug should have amphipathic having both lipophilic and hydrophilic nature to penetrate all layers of cornea. The drug contact time has an effect upon absorption and penetration of drugs. So specific duration of time has been mentioned in *Tarpana Therapy*.

Vascularity of absorbing surface-

Local heat or massage increases the vascularity of absorbing surface hence enhances the absorption of drugs. So fomentation is given prior to *Tarpana Karma*.

Physical state of the drug-

Fat soluble substances reach the circulation more slowly than water soluble drugs. Thus in *Tarpana* procedure medicated ghee are kept for longer duration.

Ionic Charge-

Non ionised drugs easily crosses lipid layer and ionised drugs crosses water soluble layer stroma. So a drug in ionised or non ionised state easily penetrates cornea. The lipid soluble active principles easily crosses lipophilic barrier of corneal epithelium. Since the tissue contact time is more hence the absorption rate.

CONCLUSION

A sincere effort is made to compile the *Tarpana* procedure in light of modern ocular pharmacology. In day to day practice *Tarpana karma* is found therapeutic effects as described in Ancient classics. So it is the responsibility of researchers to validate therapeutic observations with the scientific explanations. Any therapeutic procedure aims to attain an effective concentration of drugs at the site of action to get the desired effect. So Ancient scholars designed various *Kriyakalpa* procedures with formulations specific to different disease conditions. *Tarpana* therapy is one of the therapeutic procedures described by our ancient *acharyas* where exact amount, frequency, dose schedule etc. already been described.

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