

ROLE OF AKSHI TARPANA IN THE MANAGEMENT OF EYE DISEASES

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ABSTRACT

Eyes hold special status among all the sense organs because good vision is crucial for social and intellectual development of human beings. Hence authentic classics prescribed several preventive measures and systemic, surgical, para-surgical and local or topical treatments for the management of ophthalmic disorders. Among these several types of treatment modalities; local treatments are very specific, effective and unique to the eye diseases and are called as “*Netra Kriyakalpa*” which includes *Akshi Tarpana*, *Putapaka*, *Seka*, *Aschyotana*, *Anjana*, *Bidalaka* and *Pindi*. *Netra Kriyakalpa* have very

fast action on the target tissues of eye and reaches even up to the posterior segment of the eye. *Akshi Tarpana* is promptly recommended for *Vata- Pitta* predominant disorders. It can be taken as rejuvenation therapy; specially as it overcomes neurological and degenerative diseases which cannot be managed well by Allopathic system of medicine. It nourishes the eyes, improves the clarity of vision and can be advised as preventive and curative measure for various types of ophthalmic disorders. *Grita*, *Grita Manda*, medicated *Grita*, *Vasa*, *Majja* and milk can be utilized for the *Tarpana* procedure. Hence the drugs can easily pass through the lipophilic corneal epithelium as well as hydrophilic corneal stroma and act at the cellular level because the cell membranes are also containing lipids. Thus the aim of this study is to review the *Akshi Tarpana* including its indications, contraindications, medicinal formulations which are prescribed in authentic classics and also to study its mode of action according to modern point of view.

KEYWORDS: Ophthalmic Disorders, *Netra Kriyakalpa*, *Akshi Tarpana*, Nourishment.

INTRODUCTION

Shalakya Tantra is one of the eight specialties of *Ashtanga Ayurveda* which deals with diseases which occur above the clavicle specially the sensory organs ie. Eyes, Nose, Ears and Tongue. Eyes hold special status among all the sense organs because good vision is crucial for social and intellectual development of human beings and the knowledge from direct observation (*Pratyaksha Pramana*) can be achieved only by eyes. Other sense organs also depend on the eye sight for their accuracy as well. For example one cannot define a sound whether it come from a drum or a key board without seeing it, cinnamon smell cannot be identified whether it is natural or an essence without seeing etc. Thus eyes hold the superior most position among sensory organs. This was quoted by ancient sage Vagbhata.^[1] He said that for a man without eyes this world is useless because day and night are same for them even if the other sensory organs are healthy. Thus Vagbhata recommended that all efforts should be performed to protect the eyes throughout the life. Hence authentic classics prescribed several preventive and curative measures to protect the eyes. Almost all the *Acharyas* prescribed several treatment procedures for the management of ophthalmic disorders such as systemic, surgical, para-surgical and local or topical treatments. Among these several types of treatment modalities local treatments are very specific, effective and unique to the eye diseases and called as “*Netra Kriyakalpa*”. It is similar as *Panchakarma* in *Kayachikithsa*. *Netra Kriyakalpa* have very fast action to the target tissues including posterior segment of the eye.

There are seven *Netra Kriyakalpas* namely *Akshi Tarpana*, *Putapaka*, *Seka*, *Aschyotana*, *Anjana*, *Bidalaka* and *Pindi*. The first 5 procedures were mentioned in *Susruta Samhitha* and last two were prescribed only in *Sharangadhara Samhitha* along with other 5 procedures.

- *Akshi Tarpana* – Give nourishment to eyes through oily preparations.
- *Putapaka* – Same as *Akshi Tarpana* but drug should be prepared according to *Putapaka* preparation method.
- *Seka* – Pour liquid medicinal preparations into closed eyes with four *Angula* height and more beneficial for acute conditions.
- *Aschyotana* – Same as *Seka* but *Aschyotana* is poured into open eyes with two *Angula* height and it is the foremost procedure for all the eye diseases.
- *Anjana* – Indicated as curative and preventive measure. It should be applied only in *Dosha Pakva Avasta*.

- *Bidalaka* – Medicated paste is applied around the eyes except the eyelids in early stage of eye diseases. It is helpful as it increases the blood circulation to the eyes.

- *Pindi* – Same as *Bidalaka* but medicinal paste is kept over whole eye including lashes.

Allopathic system of medicine also developed several ocular treatment modalities and can be divided into four main divisions as systemic administrations, periocular injections, intraocular injections and topical instillations.^[2] Topical instillations included eye drops, eye ointments, gels, ocuserts and soft contact lenses. These topical instillations can be correlated with *Kriyakalpas*.

- Eye drops – May be in the form of aqueous solutions or aqueous suspensions. It gives quick action and diluted immediately by tears.

- Eye ointments – Increases the bioavailability of the drug by increasing tissue contact time and by preventing dilution and quick absorption but cause blurred vision.

- Gels – Have prolonged contact time and do not cause much blurred vision.

- Ocuserts – Can be placed in the upper or lower fornix up to a week and allow drug to be released at a relatively constant rate.

- Soft contact lenses – Very good for delivering higher concentrations of drugs in emergency treatment.

Among all these *Kriyakalpas*; *Akshi Tarpana* is the foremost and unique therapeutic procedure for several types of ophthalmic disorders such as *Timira* (darkness in front of the eyes), *Shushkaakshipaka* (dryness of eyes) etc. Giving nourishment or rehydration to eye is the literary meaning of *Akshi Tarpana*. The word “*Tarpana*” is derived from the root verb “*Trup*” by adding the “*Lyut*” pratyaya.^[3] This is a procedure where lukewarm ghee, medicated ghee or any other oily substance is kept on the eye for a specific period of time inside a specific frame which is made by black gram flour. Thus it will be in contact with the eyes for a long time. Hence *Akshi Tarpana* can be correlated with eye ointments and gels in modern science.

AIMS AND OBJECTIVES

1. To review *Akshi Tarpana* including its indications, contraindications and medicinal formulations which are prescribed in authentic classics.
2. To study the mode of action of *Akshi Tarpana* according to modern point of view.

Indications of Akshi Tarpana

Tarpana should be performed in patients who have cleaned their head (*Urdhava Shodana* by *Nasya*) and body (*Adhah Shodana* by *Virechana* and *Vasti* etc.). Also it should be done after the digestion of food or empty stomach on auspicious day in afternoon or forenoon.^[4]

Table No. 01: Indications of Akshi Tarpana.

Indication	Susruta samhita ^[5]	Ashtangahridaya ^[6]	Sharangadhara Samhita ^[7]
1. Darkness in front of eyes	+	+	
2. Excessive dryness of eyes	+	+	+
3. Roughness of eyes	+	+	
4. Hardness of eyes	+	+	
5. Falling of eye lashes	+	+	+
6. Dirtiness of the eyes	+		+
7. Deviated eyeball	+		
8. In extreme aggravation of the diseases of the eye	+		
9. Traumatic conditions of eye	+	+	
10. Vata–pitta predominant diseases	+	+	
11. Fatiguess of eyes		+	
12. Blurred vision		+	
13. Krichronmila		+	
14. Siraharsha		+	
15. Sirotkata		+	
16. Arjuna		+	+
17. Syanda		+	+
18. Mantha		+	
19. Anyatovata		+	
20. Vatapariyaya		+	
21. Shukra		+	+
22. After relief from redness		+	
23. Lacrimation		+	
24. Pain in eyes		+	
25. Swelling in eyes		+	+
26. Excretions of eyes		+	
27. Night blindness		+	
28. Vataja timira		+	
29. Timira			+
30. Difficulty in opening & closing of eye lids			+
31. Adhimantha			+
32. Shushkaakshipaka			+
33. Vataviparyaya			+

Contraindications of *Akshi Tarpana*

Akshi Tarpana is contraindicated in cloudy days, extreme hot and cold days, anxiety conditions, exhaustion, giddiness and if the complications have not subsided.^[8,10] According to Vagbhata *Tarpana* should not be performed to those who are unfit for *Nasya Karma*.^[9]

How to perform *Akshi Tarpana*

Almost all the *Acharyas* prescribed same method for performing *Akshi Tarpana*.^[11,12,13] Patient should be in supine position in a room which is free of wind, sunlight and dust. A circular wall should be placed around the eye which is made of moistened powder of black gram (*Masha*) or barley (*Yava*). This wall should be 2 inches in height. Then ghee, medicated ghee or any other recommended medicine should be luke warmed by a hot water bath and poured into the close eyes up to the level of tip of the eye lashes for a specific period of time. Patient is asked to blink the eyes intermittently and steadily. Duration depends upon the predominance *Doshas* and site of the disease.

Table No. 02 – Duration of *Akshi Tarpana* according to predominant *Doshas*.

Predominant <i>Doshas</i>	Susruta Samhita ^[11]	Ashtangahridaya ^[12]	Sharangadhara Samhita ^[13]
Healthy eyes	500	500	500
<i>Vata</i>	1000	1000	1000
<i>Pitta</i>	800	600	-
<i>Kapha</i>	600	500	500

Table No. 03 - Duration of *Akshi Tarpana* according to site of the disease.

Location	Susruta Samhita ^[11]	Ashtangahridaya ^[12]	Sharangadhara Samhita ^[13]
Sandhi	300	300	500
Vartma	100	100	100
Shukla mandala	500	500	600
Krishna mandala	700	700	700
Drishti mandala	800/1000	800	800
Sarva netra	1000	1000	1000

After the specific time period drug should be removed by a hole made in the lateral or outer canthus of the boundary. Finally eye should be cleaned by steamed barley flour. *Dhumapana* with suitable medicines is recommended as *Paschat Karma* of *Akshi Tarpana* to eliminate *Kapha*. Also patient is advised not to be in open air, not to see bright objects, sky, mirrors and shining things.^[14] According to *Acharya* Susruta it can be done for one day or three days or five days. Also *Tarpana* can be performed daily, on alternate days and with an interval of two

days for *Vata*, *Pitta* and *Kapha* diseases or healthy persons respectively. Otherwise *Tarpana* should be done till the eyes become healthy.^[12] However Jajjata interpreted this time schedule in terms of quantum of *Doshas* as mild, moderate and profuse respectively.

Features of *Samyaktarpita*, *Atitarpita* and *Asamyaktarpita* patients

Features of properly performed *Akshi Tarpana* are known as *Samyaktarpita Lakshana*.

Table No. 04- Samyaktarpita Lakshana.

Features	Susruta Samhita ^[15]	Ashtangahridaya ^[12]	Sharangadhara Samhita ^[16]
Sound sleep	+		+
Blissful awake	+		+
Free of dirt in eyes	+		
Clear colour vision	+		
Cheerfulness	+		
Alleviation of disease	+		+
Promptness in function	+		+
Cleanliness of eyes		+	+
Brightness of eyes			+
Ability to see bright things		+	
Normal size, shape and colour of eyes		+	
Lightness of eyes		+	

Features of excessively performed *Akshi Tarpana* are known as *Atitarpita Lakshana*.

Table No. 05- Atitarpita Lakshana.

Features	Susruta Samhita ^[15]	Ashtangahridaya ^[12]	Sharangadhara Samhita ^[16]
Heaviness of eyes	+		+
Turbiding	+		
Too much of unctuous	+		+
Lacrimation	+		+
Itching of eyes	+		
Sliminess of eyes	+		
Vitiation of <i>Dosha</i>	+		
<i>Kaphaja</i> diseases		+	

Features of inadequately performed *Akshi Tarpana* are known as *Heenatarpita Lakshana*.

Table No. 06- *Heenatarpita Lakshana*.

Features	Susruta Samhita ^[15]	Ashtangahridaya ^[12]	Sharangadhara Samhita ^[16]
Roughness of eyes	+		
Turbiding	+		
Lacrimation	+		
Difficulty to see	+		
Advancement of disease	+		+
Dryness of eyes			+
Dirty tears			+
Inability to see bright things		+	
Abnormal size, shape and colour of eyes		+	
Sliminess		+	
Heaviness of eyes		+	

Formulations used for *Akshi Tarpana*

1. Formulations in *Ashtangahridaya*

- *Jivantyadi Grita – Timira*
- *Drakshadi Grita – Kaca, Timira, Redness of eyes, Headache*
- *Patoladi Grita – Shukra, Timira, Naktandya, Ushna Vidagdha Drishti, Amla Vidagdha Drishti, Burning sensation of eyes*
- *Triphala Grita – Timira, Shukra*
- *Mahatriphala Grita – All abnormalities of eyes, Timira*
- *Vasa (muscle-fat) – Naktandya, Vataja Timira, Krichrabodha*
- *Pure old ghee – Pitta Vidagdha Drishti, Kapaha Vidagdha Drishti, Timira*

2. Formulations in *Cakradatta*^[17]

- *Madhukadi Grita – All types of eye injuries*
- *Vrksaadanyadi Grita – All types of eye injuries*
- *Patoladya Grita – Corneal ulcer and opacities*
- *Shashakadya Grita – Corneal ulcer & opacities, Akshipakathya, Ajaka, Pain in eyebrows, redness and burning sensation of eyes*
- *Kakolyadi Grita – All types of eye diseases*
- *Mahatriphaladya Grita – Naktandya, Timira, Kaca, Nilika, Patala, Arbuda, Abhishyanda, Adhimanta, Pakshmakopa, eye diseases caused by Vata-Pitta-Kapha, Diminished vision, Loss of vision, all types of eye diseases*

- *Thriphalan Grita – Timira*, eye discharge, *Kaca*, *Arbuda*, Blindness, swelling-itching-redness of eyes, *Arma*, *Shukra*, diseases of eyelids
- *Nagavallabha Grita – Timira*, *Patala*, *Kaca*, *Naktandya*, *Arbuda*, blindness, *Shukra*, *Linganasha*, *Arma*
- *Triphala Grita – Timira*, *Shukra*

3. Formulations in Susruta Samhita

- *Tilvaka Grita – Amladhyusita*, *Shuktika*, *Pitta Vidagdha Drishti*, *Kapaha Vidagdha Drishti*
- *Triphala Grita - Amladhyusita*, *Shuktika*, *Pitta Vidagdha Drishti*, *Kapaha Vidagdha Drishti*
- *Trivrtta Grita - Pitta Vidagdha Drishti*, *Kapaha Vidagdha Drishti*
- Old ghee – *Timira*

4. Formulations in Yoga Ratnakara^[18]

- *Dashamula Grita – Vataja Timira*
- *Rasnadi Grita – Timira*
- *Baladi Grita – Timira*
- *Vibhitakadi Grita – All types of eye diseases*
- *Maha Triphaladi Grita – All types of eye diseases*, *Raktaja Netra Roga*, *Timira*, *Kaca*, *Nilika*, *Arbuda*, *Abhishyanda*, *Naktandya*, *Adhimantha*, *Pakshmakopa*, Pain in eyes
- *Triphaladya Grita – Timira*, *Kaca*, *Naktandya*, *Shukla*, *Netra Srava*, *Kandu*, *Netra Shota*, *Netra Mala*, blindness due to exposure to sun and fire
- *Laghu Triphala Grita – Timira*
- *Patoladi Grita – Netra Shukra*
- *Sasakadi Grita – Ajaka*, *Arjuna*, *Kaca*, *Patala Roga*, *Netra Shukra*, *Vata-Pitta Netra Roga*.

Mode of action of Akshi Tarpana

Corneal epithelium and endothelium is lipid permeable and the stroma is hydrophilic. Hence lipid soluble and water soluble substances can easily penetrate through the cornea. On the other hand drug permeability across the sclera depends upon the molecular size and weight of the drug. All the drugs used for the *Tarpana* have a lipid base. Thus these drugs can easily be entered into the eyes via corneal epithelium and endothelium. Also all the cell membranes

have lipid portion itself, so *Tarpana* drugs are able to reach up to the cellular level specifically the tissue layers of the posterior segment of the eye which includes vitreous humor, retina, optic disk etc. Further *Tarpana* drugs are retained in the eyes for a longer time than eye drops (*Seka*, *Ashyotana*). Hence its bioavailability is higher than *Seka* and *Ashyotana*. So it facilitates more time for absorption and bioavailability and hence more effective comparatively. More ever luke-warm medicines are used for *Tarpana*; which increases blood supply by vaso dilatation and facilitate quick and better absorption.

DISCUSSION AND CONCLUSION

Akshi Tarpana is promptly recommended for *Vata- Pitta* predominant disorders and several eye diseases as well (Table No. 01). It acts as rejuvenation therapy; specially as it overcomes neurological and degenerative diseases which cannot be managed well by Allopathic system of medicine. Also western ocular medicines have several side effects due to preservatives and other chemicals used; not only that but also periocular and intraocular injections produce several adverse effects while administrating. But the Allopathic system uses these procedures to administrate drugs into the deeper layers of eyes. Hence *Akshi Tarpana* is a good, simple, easy and effective treatment modality for treating eye diseases which is being practiced more than 5000 years. It nourishes the eyes, improves the strength of vision as ghee is rich in Vitamin A. Vitamin A is essential for the formation of rhodopsin which is a retinal photoreceptor (rods) pigment and also facilitates healthy maintenance of ocular surface. Finally it can be concluded that *Akshi Tarpana* is an ideal remedy for various types of ophthalmic disorders; which can be used as preventive and curative measure.

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