

AKSHI TARPANA - A UNIQUE OCULAR THERAPY IN AYURVEDA**N. A. Prasad^{*1}, Varun Sawant², Ashu³, Gagan Singh Dhakad⁴ and Akhilnath Parida⁵**

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Article Received on
31 August 2019,

Revised on 21 Sept. 2019,
Accepted on 11 Oct. 2019

DOI: 10.20959/wjpr201912-16097

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ABSTRACT

Netragolaka (eyeball) is an essential sense organ of the human body. There are some restrictions even after noticeable progress and advances in the department of modern ophthalmology. Modern medicine doesn't have any precise management for the strange problem of the eye. The majority of the inflammatory eye diseases are managed well in the western system of medicine. However, neurological diseases of the eye, as well as degenerative conditions of the eye, are resistant to even refined new generation procedures. Thousands of Indian patients are affected by neuro-degenerative disorders of the eye. Even though in the field of ophthalmology modern science has been

shown enormous and notable progress and advances in recent times, the significance of Ayurvedic management in the diseases of eyes cannot be overlooked. Being a well-known ancient system of medicine, *Ayurveda* gives valuable guidelines not only in treatment aspects but also in prophylactic lines. There is a great necessity to find out an ocular procedure for the prevention and treatment of eye diseases having no or least adverse effect. *Tarpana Karma* is one of the topical therapeutic procedures which if promptly used reveal an objective

piece of evidence of excellent responses. In this article there is a review on *Akshi Tarpana Karma*, their indications, contraindications and possible mode of action are discussed.

KEYWORDS: *Tarpana*, topical therapeutic procedures, *Kriyakalpa*, *Akshi*, *Ayurveda*, *Ghrita*, *Chikitsa*.

INTRODUCTION

The Eye is the principal sense organ gifted by God to human beings. *Ayurveda* has given the significance of an eye with the quote "*Sarvendriyanam Nayanam Pradhanam*"^[1] i.e. eye is the principal sense organ among all sense organs. It is depicted by *Sushruta* in detail. *Sushruta* has written nineteen chapters in *Uttartantra* that expound the medical, surgical and preventive aspects of *Netra*. *Netra* (*Akshi*) is an important organ for *Indriya Janya Gyana* (sensory knowledge) which is considered as a source of *Pratyaksha Gyana* (direct perception). We attain doubtless knowledge with the help of *Indriya* (sense organ) and out of five *Indriya*, the most essential is the *Netra*. Ancient Indian philosophy is of the notion that all materials, living or non-living are made up of five basic elements called *Panchamahabhutas*, and all parts of the body are also made up of the combination of these *Mahabhutas*. In the case of *Netra*, there is a predominance of *Teja Mahabhuta*; therefore *Netra* organ has always a threat from *Kapha Dosha*, which has precisely opposite qualities that of *Teja Mahabhuta*.^[2] the eye is the site of *Alochaka Pitta*. As quoted in *Ashtanga Hridaya*, sincere efforts should be made by everyone to sustain his / her sight till the last breath of life, as for a person who is blind, day and night are the same and this beautiful world is of no utility to him even if he has a lot of riches.^[3] All efforts should be made for the strength of eyes, by resorting to *Nasya*, *Anjana*, *Tarpana*, etc. Once the eyesight is lost the versatility of the world will all become unified to one, of unified abstruseness.^[4] Although present-day medical science has made immense and noticeable progress and advances in the field of ophthalmology in modern times, the significance of Ayurvedic management in the diseases of the eye cannot be disregard. Each wing of *Ayurveda* has come out with *Vishishta Chikitsa* aside from *Samanya Chikitsa*. For example, *Basti Chikitsa* occurs to be the *Chikitsardha* in *Kayachikitsa*, *Raktamokshana Chikitsardha* in *Shalyachikitsa*, likewise *Kriyakalpas* form *Chikitsardhain Shalakya Chikitsa*. *Kriyakalpas* are one of the kind procedures practiced in *Shalakya Tantra* having a vast range of implications in the management of *Netra Vikara*. *Kriyakalpa* are meant to mitigate the *Sthanika Khavaigunya* proceed out of vitiated *Doshas* and their impact on *Netra Avayava*. *Kriya Kalpa* can also be

used as *Swasthya Sanrakshaka Prayoga* to sustain the functional integrity of the sense organs and conquer the old age-related disease. *Kriya Kalpa* includes *Seka*, *Aschyothana*, *Tarpana*, *Putapaka*, *Anjana*, *Bidalaka*, and *Pindi*.^[5] Among all *Kriya Kalpa*, *Netra Tarpana* is the first procedure for eye disorders. *Akshi tarpana* is one of the particularize treatments for different eye diseases. *Akshi Tarpana* acts as both prophylactic and curative therapy for maintaining the natural sound condition of eyes. It is *brimhana* in quality. The expression *Akshitarpana* (also denominate *Netrabasti*) is from Sanskrit where *Akshi* refers to eye and *Tarpana* stands for nourishment or rehydration process. So accumulatively the term indicate nourishment of eyes or in a way rehydration of eyes. *Akshi Tarpana* is the *Ayurvedic* purification and rejuvenation treatment provided peculiarly as part of *Panchakarma* management in *Ayurvedic* care facilities. *Akshi Tarpana* is a procedure wherein tepid medicated ghee is made to remain stagnant in the eyes for a speculated time in a particular formed frame. The therapy is considerably beneficent for the relaxation of eyes and the management of different ailments related to eyes. *Akshi Tarpana* has been used from pristine times in *Ayurveda* for improving eyesight and is highly beneficent to folks working late in front of computers and on the machinery affecting the eyes. It is the most adore *Kriya Kalpa* largely used in *Netra* practice. It cherishes the eyes, improves and invigorates the *Drishti Shakti*. It is a very efficient, preventive and remedial procedure in *Vataja* and *Pittaja Vikaras*.

Indications for *Tarpana Karma*

When a patient sees darkness in front of eyes, Dryness of the eyes, The roughness of the eyes, Stiffness of eyelids, Falling of eyelashes, The dirtiness of the eyes, Deviated eyeball or squint, In extreme aggravation of the diseases of the eye, Injury/traumatic condition of the eye, *Vata Pitta* predominant diseases.^[6]

Acharya Vagbhata has further added a list of diseases specifically selected for *Tarpana Karma*. They are *Kricchronmilana* (difficulty in opening eyes), *Siraharsha* (congestion of conjunctival blood vessel), *Sirotpata* (episcleritis), *Tama* (blackout), *Arjuna*(subconjunctival haemorrhage), *Syanda*(conjunctivitis), *Adhimantha* (glaucoma), *Anyatovata*(referred pain in the eye or sphenoidal sinusitis), *Vataparyaya*, *Avarana Shukra* (corneal opacity).^[7]

Contraindications for *Tarpana Karma*^[8]

Acharya Sushruta advises that *Tarpana* should not be done; on a overcast day, extreme hot or cold seasons, in conditions of fears and apprehension, in conditions of fatigue and

wooziness of eyes, in complicated conditions of eyes, in the condition of acute pain, inflammation, redness, etc.^[8]

PROCEDURE

Poorva Karma

Appropriate *Shodhana Karma* is carried out according to the procedure. Later *Sthanika Abhyanga* and *Mridu Swedana* are done.

Pradhana Karma

Akshi Tarpana should be carried out in the forenoon or the afternoon on an auspicious day after the food (taken by the patient) has been digested and after the head and the whole body of the patient have been treated with purification measures properly. The patient is made to lay in the supine position in a good lighted, ventilated room free from dust and smoke. Then the eyes are encircled with the firm, compact leak-proof *Pali* (wall) made up of paste of powdered *Masha*. According to *Vagbhata*, *Pali* is made up to a height of two *angula*. The patient is asked to close the eyes and over the closed eyes, *Ghrita* processed with appropriate drugs and liquefied in lukewarm water should be poured to the orbit, till the level of the tip of eyelashes. The patient is asked to open and close the eye intermittently and steadily.

Pashchata Karma

After retaining *Ghrita* for a stipulated period, the *Ghrita* is drained out through a hole made at the bottom of the dough wall, near the outer canthus of the eye and the eye is irrigated with lukewarm water fomentation. The *Kapha* which has already been stimulated by the potency of *Ghrita* should be eliminated by *Shirovirechana* (*Nasya*), and fumigation (*Dhoompana*) with the *Kapha* suppressive drugs. The patient is instructed to keep away from exposure to bright lights, wind, sky, mirrors and luminous bodies.^[9]

Snehadharanakala or period of retention of *Ghrita*^[10, 12]

Snehadharanakala is implemented considering *Adhishtana* of diseases and the severity of *Dosha Prakopa*.

Snehadharanakala according to Dosha Prakopa

<i>Doshabheda</i>	<i>Susrutha Samhita</i>	<i>Ashtanga Hrudaya</i>	<i>Sharangadhara Samhita</i>	<i>Bhavaprakasha</i>
<i>Healthy Eye</i>	500	500	500	500
<i>Kapha Prakopa</i>	600	500	500	500
<i>Pitta Prakopa</i>	800	600	-	600
<i>Vata Prakopa</i>	1000	1000	1000	1000

Snehadharanakala according to Adhishthana of diseases

<i>Adhishtana</i>	<i>Susrutha Samhita</i>	<i>Ashtanga Hrudaya</i>	<i>Sharangadhara Samhita</i>	<i>Bhavaprakasha</i>
<i>Sandhigata</i>	300	300	500	500
<i>Vartmagata</i>	100	100	100	100
<i>Shuklagata</i>	500	500	600	-
<i>Krishnagata</i>	700	700	700	700
<i>Drishitigata</i>	800/1000	800	800	800
<i>Sarvagatha</i>	1000	1000	1000	1000

Days of the procedure or *Tarpana Avadhi*^[13, 14]

Acharya Sushruta without clarifying the condition of the eyes simply asks to perform the procedure for one day, three days, or five days or till the *Samyaka Tarpita Lakshana* is seen. According to *Acharya Jejjata* for *Vataja* diseases *Tarpana* has to be done for 1 day, for *Pittaja* diseases *Tarpana* has to be done for 3 days, and for *Kaphaja* diseases *Tarpana* has to be done for 5 days. According to *Acharya Videha*, *Tarpana* can be carried out daily or *Niranthara* or an alternate day or with two days break or three days break depending on *Dosha* and *Teevratha* of *Vyadhi* as well in *Swasthya*. According to *Acharya Vagbhatta* *Tarpana* should be done daily in vitiation of *Vata*, on alternate days in *Pitta*, with an interval of two days in *Kapha* and *Swasthya* (healthy person) or till the eyes become fully satiated.

***Samyak Tarpita Lakshana*^[15]**

Features	<i>Sushruta Samhita</i>	<i>Ashtang Hridaya</i>	<i>Sharangdhara Samhita</i>
<i>Sukhaswapana</i> - good (sound) sleep	+		+
<i>Avbodhatva</i> - blissful awakening	+		+
<i>Vaishadhya</i> - clearness of the eyes	+		
<i>Varnapatava</i> - discernment of individual colors	+		
<i>Nivriti</i> - the feeling of comfort	+		

<i>Vyadhidividhvansa</i> - the cure of the disease	+		+
<i>Kriya laghvama</i> - easiness in closing and opening the eyes	+		+
Cleanliness of eyes		+	+
Brightness of eyes			+
<i>Prakash kshamta</i> - ability to withstand bright light		+	
Normal size, shape and color of eyes		+	
Lightness of eyes		+	

Ati Tarpita Lakshanas^[15]

Features	<i>Sushruta Samhita</i>	<i>Ashtang Hridaya</i>	<i>Sharangdhara Samhita</i>
<i>Netragaurava</i> - heaviness in eyes	+		+
<i>Avilta</i> - indistinct vision	+		
<i>Atisnigdghata</i> - excessive oiliness	+		+
<i>Ashru Srava</i> - lacrimation	+		+
<i>Kandu</i> - itching	+		
<i>Upadeha</i> - stickiness	+		
<i>Dosha Samutklishta</i> - aggravation of <i>Dosha</i>	+		
<i>Kaphaja</i> diseases		+	

Heena Tarpita Lakshanas^[15]

Features	<i>Sushruta Samhita</i>	<i>Ashtang Hridaya</i>	<i>Sharangdhara Samhita</i>
<i>Netrarukshata</i> - dryness of the eye	+		
<i>Avilta</i> - indistinct vision	+		
<i>Ashrusrava</i> - lacrimation	+		
<i>Asahyam roopdarshan</i> - difficulty in vision	+		
<i>Vyadhidividhi</i> - aggravation of a disease	+		+
Dryness of eyes			+

Dirty tears			+
Inability to see bright things		+	
Abnormal size, shape, and color of eyes		+	
Sliminess		+	
Heaviness of eyes		+	

Treatment of inadequate and excessive *Tarpana*^[16]

Dhoompana, Nasya, Anjana, Seka either *Ruksha* or *Snigdha* are to be done for treating both inadequate and excessive *Tarpana* conditions according to the predominance of *Dosha*. *Snigdha Seka* in the disease of *Vata* predominance, *Ruksha* in *Kapha* and *Sheeta Seka* in *Pitta* predominance *Dosha*.

Formulations used for *Tarpana*^[17, 18]

1. Formulations in *Ashtangahridaya*

- ☐ *Jivantyadi Ghrita – Timira*
- ☐ *Drakshadi Ghrita – Kacha, Timira, Redness of eyes, Headache*
- ☐ *Patoladi Ghrita – Shukra, Timira, Naktandya, Ushna Vidagdha Drishti, Amla Vidagdha Drishti, Burning sensation of eyes*
- ☐ *Triphala Ghrita – Timira, Shukra*
- ☐ *Mahatriphala Ghrita – 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 *Chakradatta*

- ☐ *Madhukadi Ghrita – All types of eye injuries*
- ☐ *Vruksaadanyadi Ghrita – All types of eye injuries*
- ☐ *Patoladya Ghrita – Corneal ulcer and opacities*
- ☐ *Shashakadya Ghrita – Corneal ulcer & opacities, Akshipakathya, Ajaka, Pain in eyebrows, redness and burning sensation of eyes*
- ☐ *Kakolyadi Ghrita – All types of eye diseases*
- ☐ *Mahatriphaladya Ghrita – Naktandya, Timira, Kacha, Nilika, Patala, Arbuda, Abhishyanda, Adhimantha, Pakshmakopa, eye diseases caused by Vata-Pitta-Kapha, Diminished vision, Loss of vision, all types of eye diseases*
- ☐ *Thriphalan Ghrita – Timira, eye discharge, Kacha, Arbuda, Blindness, swelling-itching-redness of eyes, Arma, Shukra, diseases of eyelids*

□ *Nagavallabha Ghrita* – *Timira, Patala, Kacha, Naktandhya, Arbuda*, blindness, *Shukra, Linganasha, Arma*

□ *Triphala Ghrita* – *Timira, Shukra*

3. Formulations in *Susruta Samhita*

□ *Tilvaka Ghrita* – *Amladhyusita, Shuktika, Pitta Vidagdha Drishti, Kapaha Vidagdha Drishti*

□ *Triphala Ghrita* - *Amladhyusita, Shuktika, Pitta Vidagdha Drishti, Kapaha Vidagdha Drishti*

□ *Trivrtta Ghrita* - *Pitta Vidagdha Drishti, Kapaha Vidagdha Drishti*

□ Old ghee – *Timira*

4. Formulations in *Yoga Ratnakara*

□ *Dashamula Ghrita* – *Vataja Timira*

□ *Rasnadi Ghrita* – *Timira*

□ *Baladi Ghrita* – *Timira*

□ *Vibhitakadi Ghrita* – All types of eye diseases

□ *Maha Triphaladi Ghrita* – All types of eye diseases, *Raktaja Netra Roga, Timira, Kacha, Nilika, Arbuda, Abhishyanda, Naktandya, Adhimantha, Pakshmakopa*, Pain in eyes

□ *Triphaladya Ghrita* – *Timira, Kaca, Naktandya, Shukla, Netra Srava, Kandu, Netra Shota, Netra Mala*, blindness due to exposure to sun and fire

□ *Laghu Triphala Ghrita* – *Timira*

□ *Patoladi Ghrita* – *Netra Shukra*

□ *Sasakadi Ghrita* – *Ajaka, Arjuna, Kacha, Patala Roga, Netra Shukra, Vata-Pitta Netra Roga*.

Prime indications of *Tarpana*

Computer vision syndrome, Dry eye syndrome, Nonspecific corneal disorders, Allergic conjunctivitis, all types of glaucoma, Early cataract, Degenerative disorders e.g. Age-related macular degeneration, Refractive errors, Diabetic Retinopathy, Hypertensive Retinopathy, Optic Neuritis.

Mode of action of *Netra Tarpana Karma*

In modern sciences, the ocular therapeutics includes medicines in the form of drops, ointments, gels, and accusers. These are the modes of topical installations of medicines in the eye. Eye drops are the easiest and most convenient method of topical application. Aqueous

solutions and aqueous suspensions are the two forms of drug instillation in the eye. In aqueous solution form, the drug is dissolved, so the drug is completely available for immediate action. But it gets quickly diluted by tears and drains through the nasolacrimal duct. Hence, it causes low tissue contact time. Whereas in suspension forms the drug is present as small particles suspended in an aqueous medium and these do not leave the eye as early as a solution. Hence it increases the tissue contact time. Ointments and gels have more bioavailability of drug which increases tissue contact time and prevents dilution and early absorption. Accusers are placed in the upper and lower fornix for up to one week and allow a drug to be released at a constant rate. The drug is delivered through a membrane. In the cornea, the epithelium and endothelium are lipids permeable i.e. lipophilic whereas the stromal layer is hydrophilic. Hence the lipophilic and hydrophilic drugs are effectively delivered to the cornea, whereas the drug permeability across the sclera depends upon the molecular size and weight of the drug. The drugs used in *Tarpana* procedure is the combination of *Ghrita* and decoction of medicines, hence the drug can easily cross the corneal epithelium (being lipophilic) and endothelium (being hydrophilic). Also due to more contact time, the active component of drugs used in *Tarpana* will be absorbed more to cure the diseases. The *Ghrita* with the decoction of medicines has the quality of trespassing into minute channels of the body, hence when applied in the eyes; it enters deeper layers of Dhatus and cleans every minute part. The lipophilic action of *Ghrita* facilitates the transportation of the drug to the target organ and finally reaches the cell because the cell membrane also contains lipids. This phospholipid character of medicament aids the entry of the drug into the eyeball through the corneal surface. Since the corneal epithelial tissue is penetrable to lipid-dissolvable substances and lipid-soluble substances transverse the corneal epithelial tissue independent of the molecular dimension. Moreover, the medicine preparations used in *Akshi Tarpana* are in the form of suspension include distinct particles of the drug and the particles do not leave the eye as rapid as a solution. Tissue contact period and bioavailability are more and hence therapeutic concentration is accomplished by *Netra Tarpana*. This aids the action of the drug in two ways, first by admitting more absorption of the drug, by the corneal surface, and secondly by exerting direct pressure upon the cornea. There may be a shift in the refractive index of the cornea causing less convergence of light rays.

Mode of action of *Tarpana Karma*

Transient regional vasodilation of conjunctival vasculature (by *Sthanik Mridu Sweda* and *Sukhoshna* lipotropic in quality *Ghrita*)



Epithelium- endothelium of the cornea



Enhanced absorption of drugs in the deeper of the stratum



Absorption through cornea independent of molecular Size



Intraocular drug absorption to the ant. Lens capsule, ciliary muscles, cornea, and other tissues



Intended therapeutic action



Regression in symptoms

CONCLUSION

The eye is the principal sense of organ gifted by the god to earthling beings. An individual who is blind, day and darkness are the same and this delightful world is of no utility to him even if he seizes a lot of wealth, so sincere efforts should be made by everyone to sustain his / her eyesight until the last trifle of life. In spite of noticeable advances and exalt in the field of present-day ophthalmology, there are some limitations. *Ayurveda*, the ancient system of medicine gives precious guidelines not only in management aspects but also in prophylactic lines. *Akshi Tarpana Karma* is one of the topical therapeutic procedures which if promptly employment reveals unbiased proof of excelling responses.

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