

# Journal of Ayurveda and Integrated Medical Sciences

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## Akshi Tarpana - A unique ocular therapy in Ayurveda

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### ABSTRACT

Netra (eye ball) is an important sense organ. Inspite of remarkable progress and advances in the field of modern ophthalmology, there is some limitations. Modern medicine doesn't have any definite treatment for the particular problem of the eye. Most of the inflammatory eye diseases are managed well in western system of medicine. However, neurological diseases of the eye as well as degenerative conditions of the eye are resistant to even advanced new generation procedures. Thousands of patients in India alone are affected by neurological and degenerative conditions of the eye. Although modern medical science has made tremendous and remarkable progress and advance in the field of ophthalmology in recent times, the importance of Ayurvedic treatment in the diseases of eyes cannot be ignored. Ayurveda, the ancient system of medicine gives valuable guidelines not only in treatment aspects but also in preventive line. There is a great need to find out an ocular procedure for prevention and treatment of eye diseases having no or least adverse effect. Tarpana Karma is one of the local therapeutic procedure which if promptly used shows objective evidences of excellent responses. In this article there is a review on Akshi Tarpana Karma, their indications, contraindications and possible mode of action is discussed.

Key words: Tarpana, Kriyakalpa, Akshi, Ayurveda, Ghrita, Chikitsa.

#### **INTRODUCTION**

The Eye is the main sense organ gifted by God to human beings. Ayurveda has stated the importance of an eye with quote "Sarvendriyanam Nayanam Pradhanam"<sup>[1]</sup> i.e. eye is the prime sense organ among the all sense organs. It is described by Sushruta in detail. Sushruta has written nineteen chapters in Uttartantra explaining the medical, surgical and preventive aspect of Netra. Netra (Akshi) is an

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Submission Date: 19/03/2018 Accepted Date: 20/04/2018
Access this article online



Website: www.jaims.in

DOI: 10.21760/jaims.v3i02.12086

important organ for *Indriya Janya Gyana* (sensory knowledge) which is considered as a source of Pratyaksha Gyana (direct perception). We acquire doubtless knowledge with the help of Indriya (sense organ) and out of five *Indriyas*, the most important is the Netra. Ancient Indian philosophy is of opinion that all materials, living or non-living are made up of five fundamental elements called Panchamahabhutas, and all parts of body are also made up by the combination of these Mahabhutas. In case of Netra, there is a dominance of Teja Mahabhuta, therefore Netra organ has always a threat from Kapha Dosha, which has exactly opposite qualities that of Teja Mahabhuta.[2] Eye is the seat of Alochaka Pitta. As quoted in Ashtanga Hridaya, sincere efforts should be made by every individual to preserve his / her vision till the last breath of life, because for an individual who is blind, day and night are the same and this beautiful world is of no use to him even if he possesses a lot of wealth.[3] All efforts should be made for the strength of eyes, by resorting to Nasya, Anjana, Tarpana etc. Once vision is lost the versatility of the world will all become merged to one, of unified

darkness.<sup>[4]</sup> Although modern medical science has made tremendous and remarkable progress and advance in the field of ophthalmology in recent times, the importance of Ayurvedic treatment in the diseases of eye cannot be ignored.

Each wing of Ayurveda has come out with Visishta Chikitsa apart from Samanya Chikitsa. For instance, Basti Chikitsa happens to be the Chikitsardha in Kavachikitsa. Rakthamokshana Chikitsardha Shalyachikitsa, similarly Kriyakalpas form Chikitsardha Shalakya Chikitsa. Kriyakalpas are unique procedures practiced in Shalakya Tantra having wide range of implications in the management of Netra Vikaras. Kriyakalpas are meant to alleviate the Sthanika Khavaigunya resulted out of vitiated Doshas and their impact on Netra Avayavas. Kriya Kalpas can also be used as Swasthya Sanrakshaka Prayoga to maintain functional integrity of the sense organs and overcome age related disorders. Kriya Kalpas includes Seka, Aschyothana, Tarpana, Putapaka, Anjana, Bidalaka, and Pindi. [5] Among all Kriva Kalpas, Netra Tarpana is the foremost procedure for eye disorders.

Akshi tarpana is one of the specialized treatments for various eve disorders. Akshi Tarpana acts as both preventive and curative therapy for maintaining normal healthy condition of eyes. It is Brimhana in nature. The phrase Akshitarpana (also called Netrabasti) is from Sanskrit where Akshi refers to eye and Tarpana stands for nourishment or rehydration process. So accumulatively the term means nourishment of eyes or in a way rehydration of eyes. Akshi Tarpana is the Ayurvedic purification and rejuvenation treatment provided especially as part of Panchakarma treatment in Ayurvedic care facilities. Akshi Tarpana is a procedure where in lukewarm medicated ghee is made to stay stagnant in the eyes for a speculated time in a specific formed frame. The therapy is quite beneficial for the relaxation of eyes and the treatment of various ailments related to eyes. Akshi Tarpana has been used from the ancient times in Ayurveda for improving the eyesight and is highly beneficial to people working late in front of computers and on the machineries affecting the eyes. It is the most revered Kriya Kalpa extensively used in *Netra* practice. It nourishes the eyes, improves and strengthens the *Drishti Shakti*. It is a very effective, preventive and curative procedure in *Vataja* and *Pittaja Vikaras*.

#### Indications for Tarpana Karma<sup>[6],[7]</sup>

- When a patient sees darkness in front of eyes,
- Dryness of the eyes,
- Roughness of the eyes,
- Stiffness of eyelids,
- Falling of eyelashes,
- Dirtiness of the eyes,
- Deviated eyeball or squint,
- In extreme aggravation of the diseases of the eye,
- Injury/traumatic condition of eye,
- Vata Pitta predominant diseases.<sup>[6]</sup>

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 spenoidal sinusitis), Vataparyaya, Avrana Shukra (corneal opacity). [7]

#### Contraindications for Tarpana Karma<sup>[8]</sup>

According to *Acharya Sushruta, Tarpana* is not indicated;

- On a cloudy day,
- Extreme hot or cold seasons,
- In conditions of worries and anxiety,
- In conditions of tiredness and giddiness of eyes,
- In complications of eyes,
- In the condition of acute pain,
- inflammation, redness etc.<sup>[8]</sup>

#### PROCEDURE<sup>[9]</sup>

#### Poorva Karma

Appropriate *Shodhana Karma* is carried out according to procedure. Later *Sthanika Abhyanga* and *Mridu Swedan*a is done.

#### Pradhana Karma

Akshi Tarpana should be carried out in the forenoon or in 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. Patient is made to lay in supine position in a good lighted, ventilated room free from dust and smoke. Than the eyes are encircled with firm, compact leak proof Pali (wall) made up of paste of powdered Masha. According to Vagbhata, Pali is made upto a height of two Angulas. 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 tip of eyelashes. Patient is asked to open and close the eye intermittently and steadily.

#### Paschata Karma

After retaining of *Ghrita* for a stipulated period, the *Ghrita* is drained out through a hole made at the bottom of 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* suppresive drugs. Patient is instructed to keep away from exposure to bright lights, wind, sky, mirrors and luminous bodies. <sup>[9]</sup>

## Snehadharanakala or period of retention of Ghrita<sup>[10-12]</sup>

Snehadharanakala is implimented considering Adhishtana of diseases and severity of Dosha Prakopa.

#### Snehadharanakala according to Dosha Prakopa

Doshabheda	Su.Sa.	As.Hr.	Sh.Sa.	Вр
Healthy Eye	500	500	500	500
Kapha Prakopa	600	500	500	500
Pitta Prakopa	800	600	-	600
Vata Prakopa	1000	1000	1000	1000

Su.Sa. - Susrutha Samhita, As.Hr. - Ashtanga Hrudaya, Sh.Sa. - Sharangadhara Samhita, Bp - Bhavaprakasha.

## Snehadharanakala according to Adhishtana of diseases

Adhishtana	Su.Sa.	As.Hr.	Sh.Sa.	Вр
Sandhigata	300	300	500	500
Vartmagata	100	100	100	100
Shuklagata	500	500	600	-
Krishnagata	700	700	700	700
Drishtigata	800/1000	800	800	800
Sarvagatha	1000	1000	1000	1000

Su.Sa. - Susrutha Samhita, As.Hr. - Ashtanga Hrudaya, Sh.Sa. - Sharangadhara Samhita, Bp - Bhavaprakasha.

#### Days of procedure or Tarpana Avadhi<sup>[13],[14]</sup>

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 Lakshanas are 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 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 in Swasthya (healthy person) or till the eyes become fully satiated.

#### Samyak Tarpita Lakshana<sup>[15]</sup>

- Sukhaswapana good (sound) sleep
- Avbodhatva blissful awakening
- Vaishadhya clearness of the eyes
- Varnapatava discernment of individual colours
- Nivriti feeling of comfort
- Vyadhividhvansa cure of the disease
- Kriya laghvama easiness in closing and opening the eyes
- Prakash kshamta ability to withstand bright light

#### Ati Tarpita Lakshanas<sup>[15]</sup>

- Netragaurava heaviness in eyes
- Avilta indistinct vision
- Atisnigdhata excessive oiliness
- Ashru Srava lacrimation
- Kandu itching
- Upadeha stickiness
- Dosha Samutklishta aggravation of Dosha

#### Heena Tarpita Lakshanas<sup>[15]</sup>

- Netrarukshata dryness of eye
- Avilta indistinct vision
- Ashrusrava lacrimation
- Asahyam roopdarshan difficulty in vision
- Vyadhivridhi aggravation of disease

#### Treatment of inadequate and excessive Tarpana<sup>[16]</sup>

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

#### Formulations used for Tarpana<sup>[17],[18]</sup>

Triphala Ghrita, Mahatriphla Ghrita, Patoladi Ghrita, Jeevantyadi Ghrita.

#### Prime indications of Tarpana

Computer vision syndrome, Dry eye syndrome, Non specific 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 the 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 eye. In aqueous solution form the drug is totally dissolved, so the drug is completely available for immediate action. But it gets quickly diluted by tears and drains through nasolacrimal duct. Hence, it causes low tissue contact time. Whereas in suspension forms the drug is present as small particles suspended in aqueous medium and these do not leave the eye as early as 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 upper and lower fornix for upto one week and allows a drug to be released at a constant rate. The drug is delivered through a membrane. In cornea the epithelium and endothelium is lipid permeable i.e. lipophilic whereas stromal layer is hydrophilic. Hence the lipophilic and hydrophilic drugs are effectively delivered to 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 lypophilic) and endothelium (being (being hydrophilic). Also due to more contact time the active component of drug used in Tarpana will be absorbed more to cure the diseases. The Ghrita with 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 *Dathus* 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 phospolipid nature of medicine facilitates the entry of the drug into the eye ball through the corneal surface. Since the corneal epithelium is permeable to lipid soluble substances and lipid soluble substances crosses the corneal epithelium irrespective of the molecular size. Moreover, the medicine preparations used in Akshi Tarpana is in the form of suspension containing different particles of the drug and the particles do not leave the eye as quick as a solution. Tissue contact time and bioavailability is more and hence therapeutic concentration is achieved by Netra Tarpana. This facilitates the action of drug by two ways, first by allowing more absorption of the drug, by the corneal surface, and secondly by exerting direct pressure up on the cornea. There may be changes of refractive index of the cornea causing less convergence of light rays.

#### Mode of action of Tarpana Karma

Transient local vasodilatation of conjunctival vasculature (by *Sthanik Mridu Sweda* and *Sukhoshna* lipophilic in nature *Ghrita*)



Epithelium- endothelium of cornea



Enhanced absorption of drugs in the deeper of layers



Absorption through cornea irrespective mol. Size



Intra ocular drug absorption to anterior lens capsule, ciliary muscles, cornea and other tissue



Desired therapeutic action



Relief in symptoms

#### **CONCLUSION**

The Eye is the main sense organ gifted by God to human beings. An individual who is blind, day and

night are the same and this beautiful world is of no use to him even if he possesses a lot of wealth, so sincere efforts should be made by every individual to preserve his / her vision till the last breath of life. Inspite of remarkable progress and advances in the field of modern ophthalmology, there is some limitations. Ayurveda, the ancient system of medicine gives valuable guidelines not only in treatment aspects but also in preventive line. Akshi Tarpana Karma is one of the local therapeutic procedure which if promptly used shows objective evidences of excellent responses.

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**How to cite this article:** Brahmanand Swamy, Sapana B. Swamy. Akshi Tarpana - A unique ocular therapy in Ayurveda. J Ayurveda Integr Med Sci 2018;2:46-51. http://dx.doi.org/10.21760/jaims.v3i02.12086

**Source of Support:** Nil, **Conflict of Interest:** None declared.