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Evaluation of action of *Netra Anjana* in maintaining *Netra Swasthya*

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ABSTRACT

Eyes hold special status among all the sense organs because vision is crucial for social and intellectual development of the human beings. Hence *Acharyas* have mentioned several preventive and curative measures for the management of ophthalmic disorders. *Kriyakalpa* is the basis of the treatment of ophthalmic disorders, as *Panchakarma* is the basis of *Kayachikitsa*. When we refer our classics for the therapeutic measures adopted in the management of eye diseases, we find that the management includes many of the topical treatments along with systemic ones. *Netra Kriyakalpas* have very fast action on the target tissues of the eye. *Kriyakalpa* includes various procedures like *Tarpana*, *Putapaka*, *Seka*, *Ashchyotana*, *Anjana* etc. for the treatment of eye diseases, as local measures. The process in which herbomineral preparation (*Gutika*, *Rasakriya* & *Churna*) mixed with water and applied on the lower eyelid margin with the help of *Shalaka* is called *Anjana Karma*. Its active principles may be transferred to the interior of the eye depending on their hydrophilic and lipophilic nature through the conjunctiva and cornea by paracellular and transcellular pathways respectively. *Anjana* therapy is highly beneficial in the anterior segment and also in the posterior segment disorders of the eye. An *Ayurvedic* review & probable mode of action of *Anjana Karma* discussed in present article.

Key words: *Ayurveda*, *Kriyakalpa*, *Panchakarma*, *Anjana Karma*, *Hydrophilic*, *Lipophilic*.

INTRODUCTION

Shalaky Tantra is one of the eight specialities of *Ayurveda* which deals with the diseases which occur above the *Jatru Pradesha* i.e., Eye, Ear, Nose, Mouth, Throat etc. Eyes hold special status among all the sense organs because vision is crucial for social and intellectual development of the human beings and the knowledge from direct observation can be achieved

from eyes only. Hence “Everyone should be dedicated enough to protect their vision, throughout the period of life because for an individual who is blind, day and night are the same and the beautiful world is useless to him even if he possesses lot of wealth.^[1] Hence for the maintenance of positive health, our *Acharyas* have prescribed various preventive and curative measures like application of collyrium to protect the eyes.^[2]

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 *Kayachikitsa*. *Netra Kriyakalpa* has very fast action to the target tissues including posterior segment of the eye.

In all *Kriyakalpas*, *Anjana* has unique therapeutic efficacy for various types of ophthalmic diseases and highly recommended as preventive measure of various

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eye disorders. *Anjana* is a procedure of applying medicine in the form of *Gutika*, *Raskriya* or *Churna* (powder) to the inner side of lower lid margin either by fingertip or by *Anjana Shalaka*. Various ancient *Acharyas* described *Anjana* therapy as daily regimen especially *Sauvira Anjana* (Antimony sulphide) and *Rasanjana* (decoction of *Berberista aristata* – *Daruharidra*) mixed with bee honey as it eliminates excessive *Kapha Dosha* from the eye because eyes have predominance of *Pitta Dosha* or *Teja Mahabhuta* for its proper functioning or clarity of vision.^[3,4,5] *Anjana* is very useful in healthy eyes, as well as in ocular diseases. “*Anakthi Thi Anjanam*” is the definition of *Anjana* and word root is *Anji* because it gives moving, cleaning and clarity to eyes.^[6]

Table 1: Karmanusara classification of Anjana

Sushruta ^[7]	Vagbhat ^[8,9]	Sharang adhar ^[10]	Yogaraj nakara ^[11]	Bhavaprak asha ^[12]
Lekhana	Lekhana	Lekhana	Lekhana	Lekhana
Ropana	Ropana	Ropana	Ropana	Ropana
Prasadana	Snehana	Snehana	Snehana	Snehana
-	Prasada na	-	-	-

As per the *Karma* it is of 3 types. *Lekhana* means scraping action useful in *Kaphaja Vikara*, *Ropana* means healing, useful in *Pittaja Vikara*, *Prasadana* means purifying helpful in *Vataja Vikaras*.

Table 2: Akrti Anusara classification of Anjana with Matra^[13,21]

Type of Anjana	Lekhana	Prasadana	Ropana
<i>Gutika</i>	1 Harenu	1½ Harenu	2 Harenu
<i>Raskriya</i>	1 Harenu	1½ Harenu	2 Harenu
<i>Churna</i>	2 Shalaka	3 Shalaka	4 Shalaka

According to *Akrti Anjana* is of 3 types. such as *Gutikanjana* (in the form of pills), *Rasakriyanjana*

(semisolid form) and *Churnajana* (powder form). *Acharya Sushruta* and *Acharya Vagbhata* mentioned that, the strength of *Anjana* increases in preceding order as *Gutika*, *Rasakriya* and *Churna*.

Anjana Matra

Depending on the quality of drugs the *Anjanas* are divided in to two.

1. *Tikshna*
2. *Mridu*

So, the above mentioned *Anjanas* can be again categorised into two groups, the dose of *Anjana* depends these two qualities.

The dose of *Gutika Anjana* of *Tikshna* variety is *Harenu Matra* and of *Mridu* variety is double the dose of it. The dose of *Rasakriya* is *Harenu Matra* for *Tikshna* variety and in *Mridu* variety it's twice the dose of above and the amount of *Choorna Anjana* to be applied in the eye is around two *Shalaka* in *Tikshna* variety and three in the other.

Table 3: Composition of Anjana as per types^[14]

Type of Anjana	Composition	Action
<i>Lekhana</i>	<i>Tikta, Kashaya, Amla, Katu, Lavana Tastes Kshara, Tikshna Guna</i>	Drain out <i>Doshas</i> from eye lids, vessels, sacs, <i>Srotas</i> & <i>Sringataka Marma</i> through mouth, nostrils & eyes
<i>Ropana</i>	<i>Kashaya, Tikta + ghee/oil</i>	Healing, improves the colour and visual acuity
<i>Prasadana / Snehana/ Drishti Prasadana</i>	<i>Madhura + ghee/oil</i>	Pacifying the <i>Doshas</i> in vision, oleation

Table 4: Indications of Anjana

Indication	Susruta Samhita ^[15]	Ashtanga Hridaya ^[16]	Sharang adhar Samhita ^[17]	Bhavaprakasha Nighantu ^[18]
After the <i>Dosha</i> manifested	+	-	-	-

Dosha located only in eye	+	+	-	-
After body purification	+	+	-	-
Dosha become Pakva	-	+	+	+
Slight oedema in eye	-	+	-	-
Severe itching in eye	-	+	-	-
Sliminess of eye	-	+	-	-
In thick eye secretions	-	+	-	-
Vata, Pitta, Kapha & Raktaja disorders		+		

Table 5: Time of application as per season^[19]

Season	Timing
Shisira, Hemanta	Madyana
Grishma	Purvahna
Sharat	Aparanah
Vasant	Any Time
Varsha	Sudina

Table 6: Time of application within day^[20]

Timing for Anjana	Indications
Purvahna (morning)	Sleshma Rogi
Sayaanha (evening)	Vataja Rogi
Raatri (night)	Pittaja, Raktaja Rogi

Table 8: Anjana Patra as per type of Anjana

SN	Anjana	Patra
1	Madhuranjana	Swarna
2	Amlanjana	Meshashruna
3	Lavanajana	Rajata
4	Katukanjana	Vaidurya
5	Tiktanjana	Kamsya
6	Kashayanjana	Tamra, Loha

Anjana Shalaka^[22] or collyrium probe is a cylindrical rod with 8 *Angulas* in length which is made of metals, stones or horns of animals and ends should be bluntly pointed like a flower bud.

Anjana Patra^[23] The container used for the storage of *Anjana* is known as *Anjana Patra*. The material should be taken according to the medicinal property of the drug. It is further advised the *Anjana Shalaka* also can be made according

Contra-Indications^{[24],[25],[26]}

- *Srama* - tiredness
- *Udavarta* - upward movement of vata
- *Ajirna* - indigestion
- *Rudita* - crying
- *Madya* - addicted to alcohol
- *Krodha* - anger
- *Jwara* - fever
- *Vegaghata* - suppression of natural urges
- *Shoka* - depression
- *Dhuma* - smoking
- *Arka* - exposure to light
- *Agni* - exposure to heat
- *Divaswapna* - day sleep
- *Jagara* - awakening in night
- *Bitra* - afraid

When to Advise Anjana

The appropriate time for application of *Anjana* is after the administration of *Shodhana* therapy and when the *Doshas* localise only in the eye and in *Niramavastha* of the eye and when eye starts to exhibit *Pakwa Lakshana* like reduced oedema, severe itching, lack of discharge etc. Implementing these methods of treatments without losing their priority in different *Doshik* status deserve great attention, because the patient is benefited only if we indicate the particular method in correct time of application otherwise instead of pacifying the *Doshas* in the eye, it may deteriorate the condition and results in complications.

When to apply Anjana

Acharya Sushruta advises to do *Anjana* in morning for *Kapha* predominant eye diseases, during evening for *Vata* related eye diseases and in *Rakta Pitta* diseases it is advised to do in night. *Anjana* While applying in the morning time it should be *Kapha Shamaka* in nature as there is chance of vitiation of the same in the morning while in the night it is better if it is *Pitta Shamaka* as it may make the eye fresh and cool which has become weak due to the exposure to hot sun. In this way the application of *Anjana* in morning and evening surely correct the daily vitiation of *Doshas* in a healthy eye. It is not applicable in pathological eye.

The other opinion is regarding the application of *Tikshna Anjana*, as it contains *Katu, Lavana, Amla Dravyas* which of boutique combination of *Agni* and *Vayu*, applying it in day time will again harm the eye as there is hot outside, but during night the coolness of the moon helps the eye to recover easily from the ill effects of *Tikshna Anjana*.

Method of application of Anjana

Poorva Karma^[27]

After deciding the type and dose of *Anjana*, the desired amount of it can be applied to the eyelid using the different applicator mentioned for particular purpose. To avoid the anxiety of the patient the procedure should be explained to them.

Position - *Anjana* can be applied in supine or sitting position.

Pradhana Karma

Eyelids are retracted with left hand, while with the help of right hand *Anjana* is applied with *Shalaka* from inner canthus to outer canthus and vice-versa. After applying the *Anjana*, the patient is asked to close the eyelids gently and to rotate the eyeball, which helps in spreading of medicine in the eye. Blinking, rubbing of lids, washing the eye is contraindicated during the procedure. The dissolved *Doshas* come out through lacrimation.

Paschat Karma

After *Anjana Karma* when lacrimation stops then *Netra Prakshalana* (Eye wash) is performed with suitable decoction as per *Dosha, Roga, and Ritu*. After *Prakshalana*, eye is wiped with clean cloth and *Pratyanjana* of opposite quality of *Anjana* is applied.

Prakshalana Vyapad

If *Prakshalana* is done prior to elimination of *Doshas*, there is a fear of recurrence of disease.

In case of improper *Prakshalana* symptoms like itching, inertness occurs. In that condition *Tikshnaanajana* or *Tikshna Dhuma* is indicated.

Samyak, Atiyoga, Hinayoga of Anjana^[28]

Lekhananjana Samyak Yoga - Eye becomes clean, no discharge with symptom of lightness, clarity in vision and proper activity of eyelids and free from complications.

Atiyoga Lakshana, Chikitsa - Causes squint, hardness, discoloration dryness and excessive discharge. These conditions should be treated with nourishing therapies that alleviate *Vata*.

Hinayoga Lakshana, Chikitsa - Aggravation of *Doshas* occurs. Measures such as *Dhuma, Nasya, Anjana* are advocated to eliminate the *Doshas*.

Prasadana Anjana and Ropana Anjana - *Samyak Yoga, Atiyoga* and *Ayoga* of *Ropananjana* is described same as that of *Prasadananjana*.

Samyak Yoga - Eye become pleasant with devoid of *Doshas*, attains unctuous, normal colour, strength and able to perform proper eye movements.

Atiyoga - Symptoms such as heaviness of eye, eye filled with tears, excessive unctuousness, lacrimation, itching, sticking of eyelashes with less severity than that of *Atiyoga of Tarpana*.

Ayoga - Doesn't serve the purpose of application.

Mode of Action

According to *Acharyas* the *Lekhan Anjana* because of its *Tikshna* property, eliminate the *Doshas* from the *Siras* pertained to *Vartma* & eye and from the tissue, from related *Srotas* and also from the *Sringataka Marma* through mouth, nose and eye.^[29] A medicine applied to eye spreads to *Netra Sandhi*, enters the nose through nasolacrimal duct and reaches the *Nasa Siras*, and also to *Shrungataka Marma* and takes away the *Doshas* and expels them.^[30] *Gutika* and *Churna Anjana* have micro particles which may be deposited in the cul-de-sac and thereby increase the bioavailability to enhance ocular absorption. The ocular absorption of *Anjana* may initiate through the conjunctiva and cornea. Mainly lipophilic active ingredients may get absorbed through the cornea by transcellular pathway and hydrophilic ingredients from the conjunctiva by paracellular pathway. Most importantly molecular size and molecular weight of the active ingredients play a major role in the absorption process. Once it crosses the conjunctiva (mainly hydrophilic); the sclera is more permeable and it allows drugs to penetrate the other interior structures of the eye i.e., ciliary body, iris, aqueous humour, lens, vitreous etc. The drugs pass through the corneal epithelium (mainly lipophilic) directly goes to the aqueous humour and then get distributed to the other ocular tissues. However, some of the drugs coming to the aqueous humour either via cornea or conjunctiva are undergo to metabolization by the enzymes present in the aqueous. Considering all these factors it can be said that *Anjana* therapy is very beneficial in ocular diseases.^[31]

Anjana Vyapad ^[32]: *Anjana* applied in case of

- Improper sleep - causes lethargy to blink.
- In presence of wind - causes dimness of vision
- In presence of dust and smoke causes redness, secretion and glaucoma

- After *Nasya* causes sneezing
- In headache - aggravates the headache
- After head bath, before sunrise - stagnation of *Doshas* which doesn't serve the purpose.
- In indigestion causes redness, swelling

So, *Anjana* should be planned as per *Desha* (location), *Kala* (time), *Roga Avasta* (stage of the disease)

DISCUSSION

Anjana (collyrium) is procedure of applying medicinal pastes/ powders to the inner part of lower lid either from *Kaneenika Sandhi* (inner canthus) to *Apanga Sandi* (outer canthus) or vice versa with *Anjana Shalaka* (applicator). *Anjana* is performed after *Dosha* attaining *Pakwavasta* i.e., having symptoms like *Alpashopha* (reduced orbital swelling), *Na Atikandu* (slight itching), *Na Ati Paichilya* (slight slimy discharge) and signs of slight watering, redness, foreign body sensation, *Vyaktarupa*, *Netrashraya Mala*, after *Samshodana*, *Manda Raga*, *Ashru* (lacrimation), *Garsha* (foreign body sensation). Performing *Anjana* in *Amavastha* increases the severity of disease which may lead to *Netra Vikara*.

CONCLUSION

Kriyakalpas are well designed procedures to treat ocular disorders but among them *Anjana* is used for both ocular as well systemic diseases which was outlined by our ancient medical scholars as they were aware of the mechanism of Blood aqueous barriers, and Blood Brain Barriers thus *Anjana* is mentioned in *Netra Vikaras* as well as in some of the Systemic disorders. *Anjana* is the simple therapeutic procedure among the *Kriyakalpas* for the daily usage which will acts as *Chakshushya* i.e., helps in maintaining good visual acuity. It has protective and curative effect on the eyes. After application of *Anjana*, person is asked to rotate the eyeball by closing the lids allowing spread of medicine over the eye by limiting nasolacrimal drainage there by increasing the bioavailability of medicine. *Anjana* is a good, simple, easy and effective treatment modality for treating both the anterior and posterior segment disorders of the eye which is being

practiced more than 5000 years. Finally, it can be concluded that *Anjana* is an ideal remedy for various types of ophthalmic disorders; which can be used as preventive as well as curative measure.

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