

Conceptual and Clinical Study of *Anjan-karm* and *Anjanayogas* in *Netravyadhies*

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Abstract

Ayurveda has given various lines of treatments for normal functioning of vision throughout life in the form of *Kriyakalp*. *Kriyakalpas* are the methods which are used to treat the *Netraroga*. *Anjana* is one among seven *kriyakalpa* which gives nourishment to the eyeball and cures the *vata pitta and kapha predominantly vikaras* of *netra*. Thus it has preventive as well as curative effects. Because of easy administration, availability, affordable price *anjana* is the best option among *kriyakalpa* especially when a long term therapy is needed. *Anjana* is traditional therapy for eye and it has unique efficacy for several types of ophthalmic disorders and highly recommended as preventive measure of eye diseases and it can act as single therapy for many eye disorders. Considering contents of *dosha-dushya*, many eye disorders are *vata-kapha* dominant in nature so it can be well treated by *vata-kaphaghna, lekhana & dhatu pushtikar anjana*. So in this present article an attempt has been made to describe *anjan kriyakalp*, various *anjana yogas* and its indications (*anjan sadhyavyadhis*) briefly.

Keywords

Anjana, Anjanayogas, Anjansadhyavyadhis, Kriyakalpa



Greentree Group

Received 06/12/16 Accepted 14/02/17 Published 10/03/17

INTRODUCTION

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 (*Pratyakshapramana*) can be achieved only by eyes. Other sense organs also depend on the eye sight for their accuracy as quoted by ancient sage Vagbhata.¹ The most important thing to see this beautiful world is eyesight i.e., vision. But for an individual, who is blind day and night are same. Now a day's the diseases of the eye are much more important than any other physical disability since the loss of vision completely disables the patient.

Among the many contributions of *Ayurveda* –“*kriyakalpa*,” has a very prime importance as it is fast acting, localized, simple but inventive method of drug administration to various parts of eyes from anterior to posterior segment. There are five major types of *kriyakalp* - *Tarpana*, *Putapaka*, *Seka*, *Aschyotan* and *Anjana*. *Saranghadhar samhita* has included *Pindi* and *Bidalak* as *netraprasadanakarma*.² Because of easy local administration, availability, handy and affordable cost *anjana* is the best line of treatment among *kriyakalpa* especially when a long term therapy is needed.

Among all these *Kriyakalpas Anjana* has unique therapeutic efficacy for several types of ophthalmic disorders and highly recommended as preventive measure of eye diseases in the *Ayurvedic* system of medicine. A number of ancient *Acharyas* prescribed *Anjana* therapy as daily regimen especially *Sauvira Anjana* (Antimony sulphide) and *Rasanjana* (decoction of *Berberi staaristata*– *Daruharidra*) mixed with bee honey as it eliminates *Kapha Dosh*a from the eye because eyes have predominance of *Alochak Pitta* and *Teja Mahabhoota* for its proper functioning or clarity of vision.^{3,4,5}

Apart from the *Ayurveda* the practice of *Anjana* was prevalent during Indu valley civilization for prevention of diseases as well as cosmetic purposes. *Anjana* is also mentioned in *Atharvaveda* however a detailed description is found in *Sushrutha Samhita*, *Ashtanga Hridaya*, *Ashtanga Sangraha* and *Sharangadhara Samhita* which are described its classification, form, dosage, method of application, indications and contraindications etc.

AIM AND OBJECTIVES

❖ To study the *Anjanakriyakalpa* briefly according to *Samhita* view.

- ❖ To study the role of *anjana kriyakalpa* in *netrarogas*.
- ❖ To study the various *anjana yogas* and its indications.

MATERIALS AND METHODS

ANJANA –

अनक्तिअनेनएतिअञ्जनम ।

It is the definition of *Anjana* and word root is Anji because it gives moving, cleaning and clarity to eyes. In this procedure a *Lepa* (semisolid or solid) is applied on the inner part of the lower eye lid from inner canthus (*Kaneenika Sandhi*) to outer canthus (*Apanga Sandhi*) with *AnjanaShalaka*.⁶

Anjana (corrylium) is a popular method of application of medicine inside the eye. As well for curing various eye alignment particular procedure is mentioned as a daily routine in order to protect the eye from many hazards caused to the eye due to daily exposure. *Anjana* is indicated everywhere in different contexts of *netrarogas*, but *Acharya* have focused and explored vast varieties of *Anjana* for the management of *drishtigatarogas*.⁷ It may be due to the fact that compared to other methods it can be advised for long period and *drishti gataroga* needs prolonged therapy either in terms of prevention or as treatment.

Anjana indication–

According to *Acharya* the appropriate time for application of *anjana* is

1. After the administration of *shodhana* therapy
2. When the *doshas* localize only in the eye
3. When *amavastha* is totally eliminated from the eye
4. When eye starts to exhibit *pakwa lakshana* like reduced edema, severe itching, lack of discharge etc.⁸

Anjana can be advised in all types of *Vataj*, *Pittaj*, *Kaphaj* and *Raktaj* eye disorder. Especially *anjana* is more useful for *Vataj netravikar*.

- *Vataj netravikar* – *Shushkakshipak*, *Vatajtimir* etc.
- *Pittaj netravikar* – *Pittaj timir*, *Pakshmashat*, *Shuktika*, *Pitta vidagdhadrishti*, *Dhumadarshi* etc.
- *Kaphaj netravikar* – *Kaphaj timir*, *Pothaki*, *Praklinnavartma*, *Pishtak*, *Balasgrathith*, *kaphavidagdhadrishti* etc.
- *Raktaj netravikar* – *Arjun*, *Sawran-sukla* etc.
- *Tridoshaj netravikar* – *puyalas*, *Aklinnavartma*, *Arma*, *Abhishyanda*, *Adhimanth*, *Timir*, *Linganaash* etc.

During implementation of methods of treatments need to focus on different *doshic*

status which has great attention, because the patient is well treated 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. In *drishtigataroga* if the condition of the eye is devoid of *Amavastha* surely it is possible to precede the treatment with *Anjana* therapy. For e.g. lens swelling is not found in senile, nuclear cataract as it results due to sclerosis, so it is better to start *anjana* as initial therapy on the other hand if swelling of the lens is present then definitely we have to wait for symptoms to subside before the application of *anjana*, likewise it is possible to assess the *amavastha* of *drishtigataroga* through the symptoms as these diseases lack redness, discharge, edema from their gross appearance.

***Anjana* Contra-indication –**

One should not apply *anjana* in following conditions –

- Crying
- Tiredness
- *Udavarta*
- After intake of alcohol
- Anger
- Fever
- Suppression of natural urges

- Diseases of head
- Ocular conditions like redness of eyes, pain, blindness, excessive lacrimation, pain, swelling.⁹

Choice of *anjana* in *drishtigataroga* –

Anjana can be divided into following types

– According to quality –

According to qualities *anjana* can be divided into three types

- *Lekhana anjanas* mentioned for *Kapha* predominant conditions. The *lekhana anjanas* are made of *dravyas* having *kashaya, amla, lavana* and *katu* in *rasa*.
- *Ropana anjanas* for *pitta* related diseases. It is made of *dravyas* having *thiktha* *rasa*.
- *Prasadana anjanas* for *vataja vikaras*. *Prasadan anjanas* are made of *madhura seta dravyas*.

These three varieties are significant while treating *drishtigataroga* is concerned.¹⁰

❖ According to formulations –

We may come across the varieties according forms of *anjana* like *choormanjana*- the powder form, *pindanjana*- the solid form and *rasakriya* which is in the semisolid form (*rasakriya*) in this particular context. *Acharya Susruta* and *Vagbhata* mentioned that the strength of *Anjana* increases in preceding order as *Gutika, Rasakriya* and *Churna*.¹¹⁻¹² However *Acharya Bhavamishra*

mentioned that order somewhat differently as *Rasakriya*, *Varti* and *Churna*. Hence can be used *Anjana* according to the severity of the disease as *Gutika*, *Rasakriya* and *Churna* for the most severe, moderate and mild disorders respectively.

❖ According to action –

Depending on the quality of drugs and its action the *anjanas* are divided into two.

1. *Theekshna*
2. *Mrudu*.¹³

Anjanamatra –

So the above mentioned *anjanas* can be given in dose by two categories

Table 1 As per *Sushrutasamhita*¹⁴

Types of <i>anjana</i>	<i>Lekhana</i>	<i>Prasadana</i>	<i>Ropana</i>
<i>Gutika</i>	1 <i>Harenu</i>	1 ½ <i>Harenu</i>	2 <i>Harenu</i>
<i>Rasakriya</i>	2 <i>Harenu</i>	1 ½ <i>Harenu</i>	2 <i>Harenu</i>
<i>Churna</i>	2 <i>Shalaka</i>	3 <i>Shalaka</i>	4 <i>Shalaka</i>

Table 2 As per *Sharangadharsamhita*^[15]–

<i>Anjan</i>	<i>Mrudu</i>	<i>Tikshna</i>
<i>Pindanjana</i>	2 <i>harenumtra</i>	<i>Harenumtra</i>
<i>Rasakriya</i>	2 <i>vellamatra</i>	<i>vellamatra</i>
<i>choornanjana</i>	3 <i>salaka</i>	2 <i>salaka</i>

- *harenumtra* (around 40mgm)
- *vellamatra* (20mgm)

Though *Acharyas* have advised the above mentioned dosage for application of *anjana*, but practically it is difficult to apply because dose can be differed on individual response

of eye and patient may vary which depends on various factors like the tolerance capacity of the patient, the *prakruti* of patient, type of *anjana* used, the amount applied etc, so it is better to apply less quantity of *anjana* when it is applied for the first time, especially *theekshnanjanas* and gradually the amount can be increased to a maximum for e.g. 40mg of *pindanjana*.

Anjana Kal –

The opinion regarding the timing of *anjana* is different. It is advised to do *anjana* both morning and evening, because eyes become weak at day time due to hot rays of sun and in night time due to sleep.

Anjana should be *kaphasamana* in nature while applying in the morning time because there is chance of vitiation of the *Kapha* in the morning. On the other hand *Anjana* should be *pitta samana* in nature while applying in the evening as it may make the eye fresh and cool which became weak due to the exposure to hot sun. In this way the application it may surely correct the daily vitiation of *doshas* in a healthy eye.

The *theekshnanjana* contains *katu*, *lavana*, *amladravyas* which is combination of *Agni* *vayu*. So application of *theekshnanjana*, 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 *theekshnanjana*. But according to *Acharya Vagbhata*, application of *anjana* in night should strictly avoid due to the *seetha* in night it will cause *stambhana* so the drug can't act properly.¹⁶

Acharya Susruta advises to do *anjana* for *kapha* predominant eye diseases in morning, for *vata* predominant eye diseases during evening and in *rakta pitta* diseases in night.

ANJANA VIDHI –

1. *Purv Karm* –

- Selection of patient –

Selection of patients depends upon diagnosis of eye disease.

- Selection of medicine –

The selection of medicine for the procedure is based on patient's condition and condition of patient's disease. The hygienic precaution is taken while preparing *anjana* so that it should not infect the eyes.

After deciding the type and dose of *anjana* the desired amount of it can be applied in the eye using the different *salakas* mentioned for particular purpose.

Pradhankarm –

वामेनाक्षिविनिर्भुज्यहस्तेनसुसमाहितः ।

शलाकयादक्षिणेनक्षिपेत्कानिनमन्जनम् ॥

अपांग्यवायथायोगंकुर्याच्चापिगतागतम् ।

वर्त्मोपलेपिवायत्अंगुल्येवप्रयोजयेत् ॥

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The *anjana shalaka* filled with *anjana* is held in the right hand and applied from inner to outer or outer to inner side. The left hand is used to stretch the eye. The medicines should not be applied excessively to any of the ends like *apanga* and *kaninika*. Even if there is irritation, it should not be washed immediately as early wash may produce recurrence of disease or damage vision.

Paschat karma –

After applying the *anjana* patient is asked to move the eye ball after gently closing the eye. So that *anjana* may spread all over the surface of the eye. After the application of *anjana* karma strictly avoids opening and closing of the eye spontaneously, rubbing of the lid forcefully and washing of eye. *Netraprakshlana* should be performed with suitable decoction, when the eye becomes free from the harsh or granular feeling developed after the application of *anjana*. While preparing the *Kwath*, the factors like *Vyadhi*, *dosha*, *bala* and *kal* should be considered. After washing the eye, clean the eye with a piece of cotton. In conditions like severe vitiation of *kapha*, *dhoomapana* can be advised after *anjana*. *Theekshnanjanas* are contraindicated for prolonged use, and *prathyanjanas* are advised for correcting the complications if

developed during application of *theekshanjanas*.

Materials Used in Anjana Karma

- *Anjanapatra*
- *Anjanashalaka*
- Drugs are the essential materials for *Anjana Karma*.

AnjanaPatra

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 accordingly.

Anjanashalaka –

Anjanashalaka should be of 8 *angul* size in length. If is the aim of treatment the *shalaka* made of *Tamra* (copper) is the best option for and for *lekhanakarma*, for *Ropana karma* a *kalalohaja* (iron) *shalaka* is better and for *prasadana karma* one can prefer a *shalaka* made of *roopya* (silver) *suvarna* (gold). On the other hand *anguli* (finger) is also mentioned for the application of *anjanain* the eye.¹⁷

*Samyakyoga, Atiyoga and Heenayoga Features of Anjana*¹⁸

Acharya Susrutha explained well about the *Samyakyoga, Atiyoga* and *Heena yoga* features of *Lekhana, Prasadana* and *Ropana* types of *Anjana*. Features of properly

performed *Anjana* therapy are known as *Samyakyoga Lakshana* whereas excessively performed features are known as *Atiyoga Lakshana*. Inadequately performed features are called *Heenayoga Lakshana*.

- *Samyakyoga Lakshana* of *Lekhana Anjana* is non sliminess of eyes, lightness of eyes, non discharging, swift in action, cleanliness of eyes and subsided the complications.

- *Atiyoga Lakshana* of *Lekhana Anjana* is deviation of eyes, hardness of eyes, discolouration of eyes, drooping of eyes, roughness of eyes and excessive discharge. All of the above characteristics features causes *Vata Dosha* vitiation which must be managed *Santarpana Karma* (Saturation) along with other *Vata* alleviating measures.

- In inadequately performed *Lekhana Anjana Doshas* get more aggravated. This should be corrected by performing *Dhumpana* (medicinal smoking), *Nasya*(Snuffing) and *Anjana* therapy.

- In properly performed *Prasadana Anjana* eyes attain unctuousness-proper color and strength, cheerfulness of eyes, cleanliness of eyes and it functions perfectly.

- If *Prasadana Anjana* is applied excessively, eye is affected with some mild

disorders. In this case rough drugs should be used to pacifying *Dosha*.

- *Prasadana Anjana* applied deficiently becomes useless.
- All the features such as *Samyakyoga*, *Atiyoga* and *Heenayoga* of *Ropana Anjana* are same as *Prasadana Anjana* but results moderately.
- Hence for the better efficacy proper dose of *Anjana* must be advised.

Anjanayogas and Anjansadhyavyadhis²²

According to various *acharyas*, variety of *anjanayogas* with their indications are given as follows –

Brihatyadivarti – *Vatajnetraroga*.

Sumanakorkadivarti – *Pittaj* and *ratajnetraroga*.

Pillarogaharaanjana – *Timir*, *netrakrimi* and *Pillarogas*.

Sukhvativarti – *Timirandkacha*.

Drishtipradavarti- Provide eye sight even if eyeball is broken.

Timiraghnaanjana – *Timir*.

Saindhavadivarti – *Kaphajnetraroga*.

Amritahwadivarti – *Sannipatiknetraroga*.

Shankhprawaladivarti – *All netraroga*.

Churnanjan – *Kaphajnetraroga* and *kacha*.

Pippalyadiraskriya – *All netravigara*.

Krisnasarpvasadiraskriya – *Netraarbud* and *kacha*.

DhatrayadiRasakriya- *Pittaj* and *raktajnetraroga*.

Pathyadivarti – All eye diseases.

Gairikadigutikanjan – *Vatajnetraroga* and *vatajnetrabhishyand*.

Vaiduryadianjana – *Shuktika*.

Haritakianjana – *Kaphajaabhishyanda*.

Yoganjana – *Praklinnavartma*.

Swayamguptaanjana – Night blindness.

Chandrodayavarti – *Timir*, *mams-vrudhi*, *kacha*, *arbuda*, *ratryandha* and *sukla*.

Dantvarti– All types of *krishngataroga*.

Pushpvarti – *Timir*.

Chandanadivarti– All types of wound of *krushnmandal*.

Chandraprabhvarti – *Timir*, *pistak*, *avranasukla* and *patalgyatvyadhi*.

Mahanilvarti – *Awran-sukla*.

Sasikalavarti – Chronic diseases of eye.

Ksharanjana – *Balasgrathit*.

Tamradianjana – *Sawran-sukla*.

DISCUSSION

Considering all of above discussed factors *Anjana* therapy is a holistic, well developed method of topical ocular drug administration which is described in detail with its indications, contraindications, application method, pre and post procedure measures, dosage forms. High ocular irritation and less contact time are the main problems in

Anjana therapy. Ocular irritation can be minimized by using the optimal particle size (<10 µm) and using pH between 6.5 to 7.6; which is the pH value of normal tears. Normally instilled drugs completely disappear from the cul-de-sac in about 5 min specially eye drops. Thus if the second drop is applied 5 min after the 1st drop then no washout effect occurs on the 1st drop. Hence this theory can be applied for the *Rasakriya Anjana* for optimal results; however for the *Churna Anjana* and *Gutika Anjana* have higher bioavailability itself. Here in present review article, it is tried to correlate the *Ayurvedic* ocular therapeutic i.e. *Anjana* on the basis of modern pharmaco-therapeutic. Various drugs can be selected according to the stage and types of the disease and can be used in *Anjana* procedures according to need. Various *anjana sadhya vyadhis* are described with corresponding type of anjan for treatment. *There are various Anjana which are patalagat dushtinashak anjana.* The tissue contact time of the drug can be controlled in *Anjana* and they are selected depending upon stage and severity of diseases. Thus it eliminate the *doshas* from the *siras* pertained to *varthma* and eye and from the tissue and from related *srotas* and also from the *srungataka marma* and through mouth, nose and eye.

PROBABLE MODE OF ACTION OF ANJANA

Lekhananjana has *theekshna* property. By which it can helps to eliminate the *doshas* from the *varthma siras* and eye and from the tissue and then from related *srotas* and *srungataka marma*. *Elimination occurs* through mouth, nose and eye.¹⁹ Once applied an *Anjana* it acts as a foreign body to ocular surface. Hence eye gets reflex secretion in response to foreign particles on cornea and conjunctiva. Due to that considerable amount of drug washes out from the eye by weeping and major portion may drainage to the nasolacrimal duct (NLD). Apart from these another part may be eliminated from the ocular surface by evaporation (mainly *Rasakriya Anjana*), metabolization by tear enzymes and get in contact with tear proteins. Finally it mains in the cul-de-sac a very less amount of *Anjana* for the ocular absorption; meanwhile the portion drainage to the NLD may absorb to the systemic circulation by nasal-laryngeal and oral mucosa. On the other hand *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 though the conjunctiva and cornea. Mainly lipophilic active ingredients may absorb through the cornea by transcellular pathway and

hydrophilics from the conjunctiva by paracellular pathway. This ocular absorption may be depend on the passive diffusion, carrier mediated transport (facilitated diffusion and active transport) and endocytosis. Also pH, viscosity, tonicity and most importantly molecular size and molecular weight of the active ingredients play a major role of the same. 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. But due to high vascularization of conjunctiva, ciliary body and iris considerable amount of drug may be enter to the systemic circulation again. The drugs pass though the corneal epithelium (mainly lipophilics) directly goes to the aqueous humour and distribute 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 may be highly activated in the anterior segment of the eye because of the presence of several anatomical, biological and physiological ocular barriers. But in the system of Ayurveda

pharmacological actions of a drug may explain according to its pharmacological properties which are included *Rasa, Guna, Virya, Vipaka* and *Prabhava*. These qualitative qualities are still not explained and interpreted in accordance to the modern science. Hence as per the view of Ayurveda these qualitative measures act on the posterior segment of the eye.

CONCLUSION

In the current era, methods of drug delivery faces lots of problems so to get rid from this, scientists are attempting to address. For example, potencies and therapeutic effects of many drugs are limited or otherwise reduced because partial loss occurs due to degradation before they reach a desired targeted tissue in the body. Present way of medication has two views as topical and systemic administration of drugs to the eye. But these are highly inefficient. So there is a need for controlled, sustained release and particularly having action on posterior segment. As in *Ayurveda*, we are applying ophthalmic therapeutic either in the form of local therapy i.e. *Kriyakalpa like anjana* or in the form of systemic use i.e. oral *Chakshushya dravyas*. The main aim of any medication is the getting an effective concentration of drug at the site of action for enough period of time

so that it can elicit the response. In practice when we see therapeutic effect by this view, it definitely found in *anjana*. It is up to the science to correlate the observations with their scientific explanation.

Most of the modern topical ocular preparations are not able to reach up to the posterior segment. But *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. Because of easy administration, availability, affordable price *anjana* is the best option among *kriyakalpa* especially when a long term therapy is needed.

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