

REVIEW ARTICLE ON IMPORTANCE OF KRIYAKALPAS IN
NETRAROGDr. Alte Priyanka Pandurang^{1*} and Dr. Gopnarayan Atul Ramesh²¹Assistant Professor, Department of Shalakyatantra, Government Ayurved College,
Osmanabad (Dharashiv) Maharashtra, India.²MD Kaychikitsa, Ex Assistant Professor Department of Kaychikitsa, S.M.B.T. Ayurved
College and Hospital, Dhamangaon Nashik, Maharashtra, India.Article Received on
09 July 2023,Revised on 30 July 2023,
Accepted on 20 August 2023

DOI: 10.20959/wjpr202315-29434

Corresponding Author*Dr. Alte Priyanka
Pandurang**Assistant Professor,
Department of
Shalakyatantra, Government
Ayurved College,
Osmanabad (Dharashiv)
Maharashtra, India.**ABSTRACT**

Ayurvedis the ancient medical science which is developing as a result of various discussion and researches from ancient time onwards. The Principles of *Ayurved* have made the world to believe it. *Ayurved* not only explains about the management of disease, but also explained how to maintain the health. *Ayurved* is divided into 8 branches, out of which *Shalakya tantra* is one of them. *Shalakya tantra* deals with the study of disease and their management specific to supra clavicular region and above. so called as *Urdhvang Chikitsa*. Our eyes are the most important organs in *Urdhawajatrugata Sthana*.^[1] We must protect and take care of this delicate organ. *Urdhawajatrugata vyadis* includes the diseases of eye, ear, nose and throat. Among all of them eye is only organ whose anatomy, diseases and their treatment are detailed described in *Uttar Tantra* of *Sushruta Samhita*. In the modern

science, eye diseases are classified according to parts, visual disorders and blindness. *Ayurved* classified *Netraroga* (ophthalmic diseases) according to *Dosha* (basic constituents of body), as *doshaprakopa* (vitiation of dosha) is main etiological factor. In *Sushrut Samhita Uttartantra*, *Acharya Sushruta* described *kriyakalpa* as main therapeutic process for *netraroga*. It is nothing but an *Ayurvedic* ocular therapeutic procedure. *Acharya Dalhan* said that *Kriyakalpa* is the therapeutic external application for the eyes. Different types of *Kriyakalpa*, their indications, probable mode of action and their importance in *netrarogs* will be discussed in present review article.

KEYWORDS: *Kriyakalpa, Netrarog*, Pharmacological action, Netravvyadhi.

INTRODUCTION

Ayurved the ancient science of human life deals with physical, physiological as well as spiritual well being of individual. *Ayurved* is the first to give an elaborated descriptions of various therapeutic measures of radical removal of causative factors and restoration of equilibrium for body. *Acharya charaka* mentioned that *Ayurved* is the science which not only cures the disease but also helps to maintain the health of human being.^[2] *Ayurved* is *upweda* of *Atharved* and is the science of life based upon *Tridosh siddhant*. It is divided into 8 branches, out of which *Shalakya tantra* is one of them. *Shalakya tantra* deals with the study of disease and their management specific to supra clavicular region and above so called as *Urdhvang Chikitsa*.^[3] *Acharya Sushruta* has explained the Ophthalmology and ENT in a systemic manner in *Uttartantantra* portion. In the *Sushrut Samhita Uttartantantra*, first twenty six *adhyaya* are regarding *Shalakya tantra*, out of which first nineteen *adhyayas* are devoted to *Netrarogas* and their management.

Eyes are the reflectors of mind. Among the five perceived senses namely *Shabda, Sparsha, Roop, Rasa, Gandha* the perception of vision is very important for acquiring knowledge of everything. According to modern science, the systemic drugs cannot cross blood- aqueous, blood- Vitreous and blood Retinal barriers. So there is immense importance to the local therapies in Ophthalmology. *Ayurvedic samhitas* have explained various types of treatments & procedures to preserve the vision & to cure the eye diseases. Treatment include both *bahya* (topical) & *abhyantara* (systemic) *chikitsa*. The *sthanik chikitsa* includes different *kriyakalpas*. *Acharya sharangdhar* mentioned seven *kriyakalpas* as *aseka, aschyotana, pindi, bidalaka, tarpana, putapak, anjana*.^[4] *kriyakalpa* is main therapeutic process for *netraroga* which is described in chapter 18 in *Uttar Tantra* of *Sushruta Samhita*. According to *Sushrutacharya*, there are five *Kriyakalpas* as *Tarpan, Putpaka, Seka, Aschyotan, Anjana*. It also helps to prevent eye diseases and improve vision. As *Acharya Sushruta* assumed 'doshaprakopa' (vitiation of dosha) is prime etiological factor, *kriyakalpa* therapy is effective through its doshghna (purificative) and *chakshushya* (rejuvenating) properties. So different types of *Kriyakalpas* with their indications, probable mode of action and its importance in *netra roga* will be discussed in this present review article.

AIM AND OBJECTIVE

1. To study the literature regarding *kriyakalpas*.

2. To study the efficacy of *Kriyakalpas* in Samhitas in various Netra rogas.
3. To study the pharmacological action of *Kriyakalpas*.

NETRA KRIYAKALPA

Netra is most important sense organ among all sense organs. *Kriyakalpa* is the main therapeutic process for netrarog in *Shalakyta tantra*, The word *Kriyakalpa* is made up of two words: *Kriya* and *Kalpa*. *Kriya* mean therapeutic procedures for *chikitsa* which is used to cure the disease and *Kalpa* means medical formulation which is practicable. So *Kriyakalpa* means specific formulation used for therapy in *Ayurvedic Ophthalmology*. It comprises of selection of specific procedure, preparation of special drug form and its proper application to the eyes. *Acharya Sushruta* mentioned five *kriyakalpa* as *Tarpan*, *Putapaka*, *Seka*, *Aschyotanam* and *Anjana*.^[5] *Sharangdhara* described *Pindi* and *Vidalaka* along with them under the heading of *Kriyakalpa*. In *Charak samhita*, *Charakacharya* mentioned three *kriyakalpa* as *Bidalaka*, *Aschyotana* and *Anjana*.^[6]

Types of *Kriyakalpa*

<i>Charak Samhita</i> (3)	<i>Sushrut Samhita</i> (5)	§ <i>Sharangdhara samhita</i> (7) § <i>BhavPrakash</i> (7) § <i>Yogratnakar</i> (7)	§ <i>Ashtang Sangraha</i> (6)
1) <i>Bidalaka</i>	1) <i>Tarpan</i>	<i>Tarpan</i>	<i>Tarpan</i>
2) <i>Aschyotana</i>	2) <i>Putpak</i>	<i>Putpaka</i>	<i>Putpak</i>
3) <i>Anjana</i>	3) <i>Seka</i>	<i>Seka</i>	<i>Pariseka</i>
	4) <i>Aschyotan</i>	<i>Aschyotana</i>	<i>Achyotan</i>
	5) <i>Anjan</i>	<i>Anjana</i>	<i>Anjana</i>
		<i>Pindi</i>	-
		<i>Bidalaka / Vidalak</i>	<i>Bidalak</i>

1] *TARPANA*

- The word "*Tarpana*" is derived from the root "*Trup*" by adding the "*Lyut*" *Pratyaya*.
- *Tarpana* is highly modified procedure by which eye is nourished, toned up, strengthened and patient feels contentment. The literary meaning of the *Tarpana* is to give nourishment to the eye through *Ghrita*, *Ghrita Manda*, medicated *Ghrita*, *Vasa*, *Majja*, (bone marrow), milk.^[7]
- *Alochaka pitta* is predominantly present in *Netra*. *Ghrita* is being a *Madhura rasa*, *Madhura vipaka*, *sheeta virya*, it acts as a good medicine for vitiated *vata* and *pitta* diseases.
- By *Tarpana* procedure using *Ghrit*, vitiated *Doshas* present in the eye get eliminated due to *snigdha*, *sheeta*, *guru*, *mrudu* and *agnivardhaka* properties of *ghrita*.

- *Ghrit* has also contains the property '*Sanskarasya anuvartanat*'.^[8] That is when The drugs are processed with *Ghrita* are used for *tarpana*, *ghrita* takes the qualities of the drugs along with its own. It facilitates the transportation of drug to the target area of eye and acts as a main vehicle to cross cornea and lipid soluble barriers of eye.
- *Netra Tarpana* gives nourishment to the eyes and it cures the *vata – pittaj vikara*.
- In *sushrut samhita uttartantra*, it is indicated mainly *Tamiyati*, *Atiruksht netra*, *Ati Sushka-netra*, *Ati-daruna*, *Sheernapakshma*, *Avildarshan*.^[9]
- we can use this *kriyakalpa* When a patient sees darkness / blackouts in front of eyes, in eye fatigue, In severe dryness of the eyes, Stiffness of the eyelids, Madrosis, highly diseased eyes. *Vagbhata* has further added a list of diseases specifically in the indications of *Tarpana* as Arjun, Shukra, Abhishyanda, Timir, Siraharsha, Sirotkata, Kricchonmeelan, Abhighataj netrarog.
- In *Netratarpana* procedure, the Lukewarm medicated ghee is put in eyes for specific time in specific formed frame.^[10]

Vyadhi according to Adhishthan	Tarpana Matra
<i>Vartmagat vyadhi</i>	100
<i>Sandhigat vyadhi</i>	300
<i>Shuklagat vyadhi</i>	500
<i>Krushnagat vyadhi</i>	700
<i>Drushtigat vyadhi</i>	800/1000
<i>Sarvagat vyadhi</i>	1000

2] PUTAPAKA

- After *tarpan kriyakalpa*, eyes get fatigued.
- So *Putpaka* is the *kriyakalpa* which is used to rejuvenate the eyes after *tarpana*.
- *Putpakais* used to give energy to the eyes to overcome from fatigued stage.
- *Putpaka* procedure is similar to that of *tarpana vidhi*, except the drug used for this procedure is medicinal juice extracted with *Putpaka vidhi* instead of *ghrita*.^[11]
- Indication of *putpakais* same as *tarpana*.

Putpaka Types	Dharan kal
<i>Snehana</i>	100 Matra
<i>Lekhana</i>	200 Matra
<i>Ropana/Prasadana</i>	300Matra

3] SEKA

- *Seka* is the *kriyakalpa* in which the continuous pouring of medicated liquid at inner

canthus from 4 angular of height.^[12]

- it is mostly used in the acute conditions of eye diseases.
- It is more powerful than *aashchyotana*, so used in the diseases having *prabal doshas*.
- *Seka* can be also done with *Putapaka Rasa*.
- *SEKA* should be done at day time but can also be done at night time in emergency conditions.
- *Acharya Sushruta* mentioned that *lekhana Parisheka* in *Purvanhe* (beforenoon), *snehana parishekha* in *Aparanha* (Afternoon) and *Ropna Parishek* in *Madhyanha* (afternoon) should be done.^[13]
- But, when the disease is severe, one can do it at night times also.
- Different types of *Kwath*, *siddha tail* and *ghritare* also used for *seka kriyakalpa*.

<i>Seka types</i>	<i>Matra</i>
<i>Snehan</i>	600
<i>Lekhana</i>	300
<i>Ropana</i>	400

4] ASCHYOTANA

- According to *Acharya Vagbhatta* *Ashchyotana* is an *aadya Upakrama*. it is beneficial in the treatment of all the eye diseases.^[14]
- All *Acharyas* have given immense importance to *Ashchyotan kriyakalpa*.
- It is an eye drop instillation in the form of liquid like *swaras*, *kwath*, *fant heema*, *siddha ghrita* at inner canthus from 2 angular of height.
- It is highly economical, safe and easy procedure.
- It removes the vitiated *Doshas* from each and every parts of eye.
- It can be retained for 100 matra kala.

<i>Aschyotana types</i>	<i>Matra</i> ^[15]
<i>Snehan</i>	10 Bindu
<i>Lekhana</i>	7 or 8 Bindu
<i>Ropana</i>	12 Bindu

5] ANJANA

- The word *Anjana* is derived from the root “anj”= to apply an ointment or pigment, to decorate, to shine etc.
- The Local application of different kinds of medicine in eye is called as *Anjana*. i.e collyrium.

- The references of *Anjana* is also available in *Rigveda*. It is described in *Vedas* by the word “*Aanjana*.”
- All the *Acharya* have mentioned *Anjan* and *Aschyotana*.
- *Anjana* is the *kriyakalpa* in which medicine is applied in the eye to internal surface of lid margin from *Kaneenika sandhi* to *Apanga sandhi* using *shalaka* (probe) or by using finger.
- It is indicated in *Pakwaawastha* of eye disorders. It should not be used in *Amavastha* of disease.
- In *Ayurvedic samhitas*, *Anjana* is the preventive measure and also is a treatment speciality of *Netraroga*.
- It helps to maintain the proper vision of individual, so daily we can use it. It is effective in *Lakshanas* like *Vedana*, *Ragata*, *Daha*, and *Shotha*.^[16]
- Action of *Anjana* is well explained in *Sushruta Samhita*. According to *Sushruta*, *Anjana* by its inherent quality drains the *doshas* accumulated in the *netra*, *sira*, *vartma*, *akshikosha* and *sringataka* through eyes, nose and mouth.^[17]
- From the above reference it is well understood that *Anjana* has wide range of action apart from the action which is specific to eye.

<i>Anjana types</i>	<i>Matra</i>
<i>Lekhana</i>	One <i>Harenu</i>
<i>Prsasadan</i>	One and half <i>Harenu</i>
<i>Ropanaa</i>	Two <i>Harenu</i>

6] *PINDI*

- It is nothing but the Poulitice of different *Ayurvedic* medicine over the eye.
- In this paste of medicines are covered in a cloth and placed over closed eyes.^[18]
- It is also called as *Kavalika*.
- *Pindi* is indicated in *Abhishyandha* and localized swelling and oedema at lid and ocular pain.

7] *BIDALAK*

- *Bidalak* is the *kriyakalpa* in which medicated paste is applied over the skin of closed eye in circular manner except eye lashes.
- ‘*Bidal*’ means ‘cat’. In this procedure of *Kriyakalpa* eye looks like cat so it is called as *Bidalak*.

- It is indicated in the amavastha i.e early stage of eye disease.
- In *Bidalak*, the application of medicine is over the eye is done by *Mukhalepa vidhi* of *Sharangdhara*.^[19]

Amavastha and Niramavastha of netra

Severe pain, redness, oedema, Foreign body sensation, pricking type pain and watering are the signs suggestive of *Amavastha* of *Netrarog*. while the clinical features of *Niramavastha* are resolved symptoms like severity of pain, itching, oedema and watering and colour of eye become clear.

Photos



Tarpana



Putpaka



Aschyotana



Anjana



Seka



Pindi

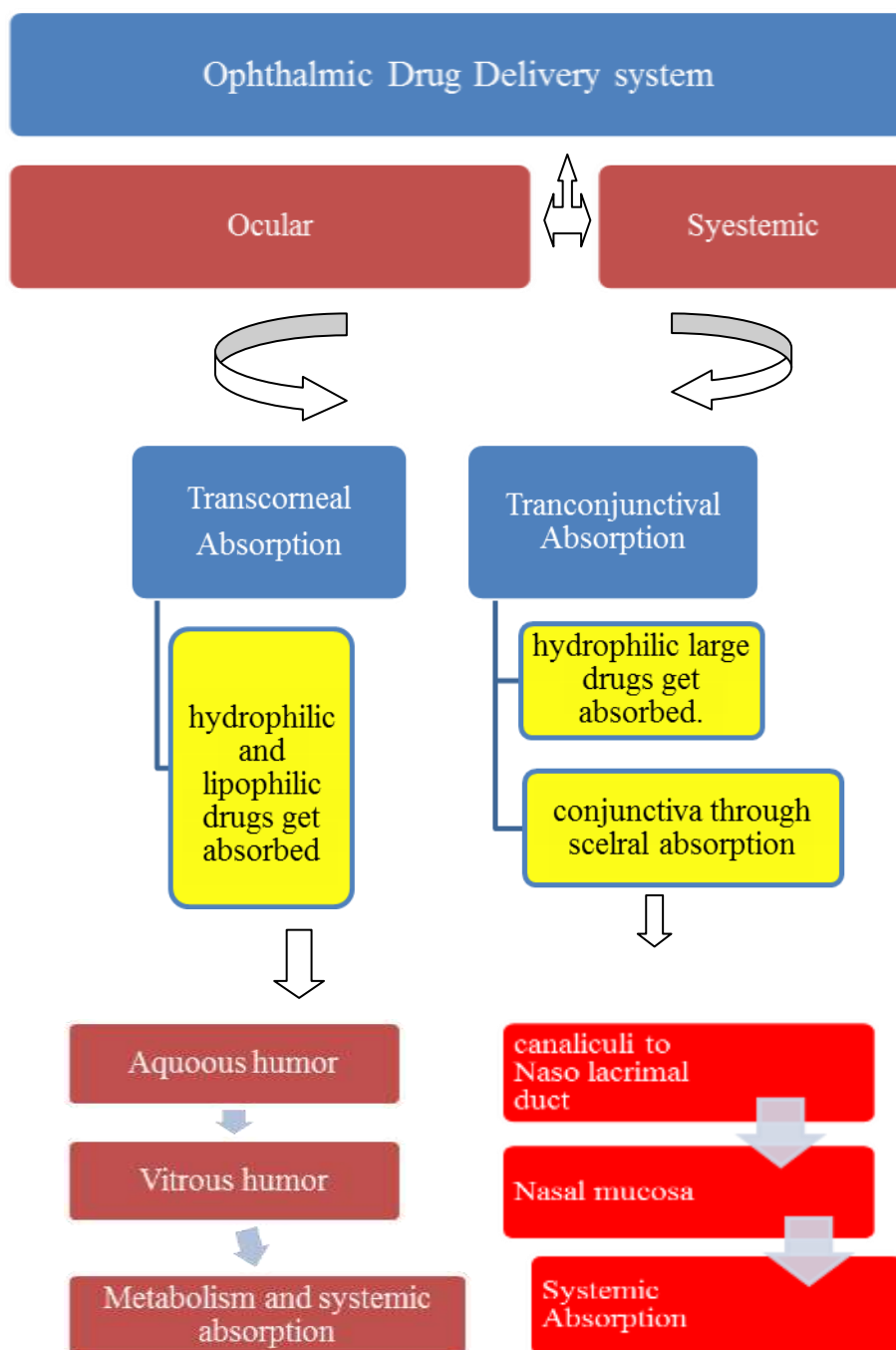


Bidalaka

Modes of Administration of Ophthalmic Drug

According to modern science, there are different and specific modes of administration of ophthalmic drug present. Topical instillation, periocular route, intra ocular route are most commonly used during the treatment of eye diseases. Topical instillation into conjunctival sac i.e the extra ocular route consist of Eye Drops, ointment, Gels, and Ocuserts. Theperiocular route consist of Subconjunctival injections, Sub-Tenon injections, Retrobulbar injections, Peribulbar injections. While the Intraocular route are having Intraocular injections in the form of intravitral injections.

In Ayurveda, we are applying ophthalmic therapeutic mostly in the form of local therapy known as Kriyakalpa, rather that in the form of systemic use i.e. oral Chakshushya dravyas.

Flow Chart Of Ophthalmic Drug Delivery System:**OCULAR PHARMACOLOGICAL ACTION OF KRIYA KALPA****❖ Tarpana**

- This is the local form of procedure in which the *Ayurvedic Aushadhi siddhaghrita* (ghee) substance is kept in eye for particular time period. This procedure is done in the special manner by using 2 angula *mash* (udid) dough.^[20]
- The medicated ghee used is in the form of suspension. So its particles do not leave the eye. Due to its lipophilic property, It will easily cross corneal epithelium barrier.

- The corneal epithelium and endothelium have 100 times more lipid content than in the stroma. The lipid soluble drugs readily penetrate the epithelium and the endothelium.
- However, only water soluble drugs can penetrate the stroma. Therefore, the drug used for *Tarpana* procedure should be amphipathic i.e. of both lipophilic and hydrophilic characters to penetrate properly.
- The tissue contact time in the *Tarpana* procedure is more. Therefore the absorption of the drug in the cornea and conjunctiva is highly significant in the *Tarpana* procedure.

❖ *Putpaka*

- Procedure is same as *Tarpana* but medicine preparation is *Swarasa* extracted by *putpaka vidhi*.
- Tissue Contact time is same as *Tarpana* but absorption is more than *Tarpana*. because it is a suspension of fat and water soluble contents so having both lipophilic and hydrophilic property to penetrate cornea.

❖ *Seka*

- In this process, the medicine is poured on closed eye (on eye lids) continuously from four inches height.
- For the *seka* procedure, *koshnakashaya* is used. when the medicated liquid comes in contact with skin of eyelid, *netra sandhi*, and *netragat siras*, it acts by its *virya, karma and prabhav*. *Seka* helps to remove the vitiated *doshas* from *netra vartma, sira, kosha, strotas* and *shrungatak marma* through *mukha, nasa* and *netra*.^[21]
- Hence *shaman* and *pachan* of *netragat doshas* can be achieved.
- The medicated drug used is in the form of aqueous extract. So it is in concentrated form and get absorbed through the skin of lids.
- The continuous stream reduces the surface tension. while the lipophilic drugs get absorbed through the epithelium of cornea while the hydrophilic drugs get absorbed through the stroma of cornea. Hence the drug is delivered by corneal and conjunctival pathway also.
- So it is used in all inflammatory conditions of diseases of anterior segments.

❖ *Aschyotana*

- The medicated drops are put into eye from the height of two inches on open eye. It enters in the *Netragata siras* and *srotas* and thereby it eliminates the accumulated *malas* and removes the vitiated *doshas*.

- Drug is used in the form of decoctions. In *Aschyotana* the drug and tissue contact time is very less.
- According to Modern science, eye drops are the simplest and most convenient method of topical application where the drug is instilled in the cul-de-sac i.e conjunctival sac in the form of either aqueous solution or lipophilic solution.
- The bioavailability is very less due to less tissue contact time. 70- 80% of each drop is instantly drained out through the NLD (Nasolacrimal Duct).
- The forms of drug instilled in eyes are of two types as Aqueous solutions and Aqueous suspensions.
- In Aqueous Solutions, there is total dissolution of the given drug. Therefore there is immediate absorption of the drug through conjunctiva and cornea. It is quickly diluted by tears also and drains out through the nasolacrimal duct. So tissue contact time is short.
- In Aqueous suspensions, the constituent drug is present in the form of small particles which are kept suspended in the Aqueous medium. These particles do not leave the eye, therefore tissue contact time increases.
- When the drug drains out through the naso lacrimal duct, it also gets absorbed through the nasal mucosa and then it gets distributed systemically.
- The ocular distribution is by transcorneal or transconjunctival absorption pathway to other intraocular structures.

❖ *Anjana*

- Anjana is the application of medicine at the internal surface of lid margin from kaneenika sandi to apanga sandi with the anjana shalaka. After the application of medicine, the patient is asked to move the eyeballs and rotate slowly so that the medicine is spread into the ocular structures.^[22]
- Its bioavailability is more due to more tissue contact time.
- According to modern science, It directly acts on the ocular tissues especially on conjunctiva, so it is most useful in all conjunctival disorders. It removes debris and unwanted tissue at conjunctiva and root of eye lashes.
- So it helps to prevent clogging at the opening of glands present at the lids.
- Anjana has thick consistency, so it remains in contact to cell long time. Consequently it has high bioavailability and efficacy of the drug at local site.
- In Charak Samhita, Charakacharya explained the importance of anjana karma by giving a beautiful example. As ornaments shine after cleaning with oil, cloth, brush etc, the eyes

become bright like moon in the clear sky by the use of Anjan. It improves the eye sight and beautifies the eyes.^[23]

❖ *Pindi*

- Medicated paste is kept in a fresh thin cloth applied on eye is named as *Pindi*. It is nothing but the poultice of the *Ayurvedic* medicine which is absorbed through skin of lid.
- Due to heat of poultice, local temperature at lid is increased. So it causes the local vasodilatation. Hence there is expulsion of the toxins from the swelling site occurs.
- Different layers of skin are not equally permeable. As per modern science the epidermis is less permeable than dermis.
- The water soluble substances pass through the sweat ducts. But ducts have not contributed for skin permeation. Therefore, most neutral molecules pass through the cornea by passive diffusion.
- Almost in all *Yogas* of *Pindi and Bidalaka*, paste of medicated drugs are prepared by using specially water or any kind of liquid medium.
- Hence, hydrophilic portion gets absorbed via intra cellular pathway while the lipophilic part present gets absorbed through inter cellular route and enters into the micro circulation.
- *Pindi kriyakalpa* have higher absorption power as compare to *Bidalaka* as there is a pressure factor acting apart from all other factor.

❖ *Bidalaka*

- In this process medicated paste is applied to closed eye lids leaving behind the eye lashes. It is more effective if the paste is made using the lukewarm water. The *Bidalaka* is kept on skin for about 15-20 minutes depending on weather. It is wiped out before it gets dried.
- Mechanical effect of pressure of drug causes vasodilatation and drains out the aqueous humour. So there is decrease of intraocular pressure.
- Medicine is absorbed through the skin of lids. The epidermis layer of skin is selectively permeable for lipid and water content.
- Water soluble contents get absorbed through skin by a passive diffusion process. While the drugs get absorbed through physiological membranes. Hence it goes into the capillaries and blood stream. The pharmacological action took place at the target tissue.

- As per *charakacharya*, *Bidalaka kriyakalpa* has tremendous efficacy to cure the diseases in acute condition to decrease the swelling and redness.^[24]

DISCUSSION

- Eyes are the most complex sense organ among all. Though it is small in parameters, it is structurally and anatomically very complex.
- Eyes help human body to do its tasks with co-ordination. Without it a man won't be able to see the beauty of this wonderful world. Eyes are the windows of the soul without eyes the five basic senses would be incomplete.
- So its presence in human body is very important because it is impossible to imagine life without sight. Hence all sincere efforts should be made by men to protect the eyes throughout the life.
- According to *Ayurveda*, the vision has immense importance. Sight and vision are important because they allow us to connect with our surrounding.
- The man who is blind, this world is useless and the night and day are same even though he may have wealth. He says that as long as there is desire for living, so long all efforts should be made always by men to protect the eyes; because for the blind man, night and day are the same; all the things of this world are useless though he might have plenty of money.^[25]
- Today's modern era is full of unhealthy life style and bad habits. It not only affects the metabolism of body but also causes the eye disorders. So eyes get impacted and cause the eye fatigue.
- *Kriyakalpas* are the ocular therapeutics in the form of topical or local administration of medications.
- The main aim of *kriyakalpa* is to give the effective absorption of the *Ayurvedic* medication to the target site by all possible ways. Its function is also to eliminate the diseases of *netra* by balancing the vitiated *doshas*.
- The specific *kriyakalpas* like *Seka*, *Aschyotana*, *Pindi* and *Bidalaka* are mostly useful in the *Aamavasthas* of *netravadyadhi*. It decreases the inflammations, redness and pain of eye.
- In our *Samhitas*, it is mentioned that *Anjana* is used in diseased as well as in normal eyes. They are mostly indicated in *drushti gata rogas*.
- *Bidalaka* is the procedure where medicine is applied over the closed eye except eye lashes. It is the external procedure in which epithelialization actively occurs.
- *Pindi* procedures enhances the absorption of the drug through skin.

- *Tarpana* is the procedure in which there is effective absorption and penetration of the medication in anterior as well as posterior segment.
- The different types of drugs are used in *Tarpana* and *Putpaka*.
- *Putapaka* has greater efficacy of penetration due to *Agnisanskara* effect.
- In *Anjana*, the tissue contact time is more, so its bioavailability is also large. it facilitates the good vision its *shodhan* and *prasadana* property.
- In local ocular therapeutic procedures, the ayurvedic medication given is acts by topical and systemic route. The topical route contributes of tranacorneal and transconjunctival absorption. While the systemic route contributes the systemic distribution through the nasal mucosa.
- Then the ocular drugs are eliminated by the liver and kidney after systemic absorption.
- The medications which are administered orally are digested due to *pachak pitta* and *jatharagni*. But they cannot cross blood-aqueous, blood-vitreous and blood-retinal barriers, so it is difficult for them to reach target tissues of the eye.
- While the drug given by topical route, it can easily pass through the different barriers of eye. The topical drugs can reach there and achieve higher bio-availability.

CONCLUSION

In *Ayurveda*, *Kriyakalpas* is the special therapeutic local or topical type of procedure for *Netrarogas*. Here is, we are presenting this article to correlate the *Kriyakalpas* with their pharmacological actions to treat various types of diseases of *Netra*. So the present article gives focus on the pharmacological actions and therapeutic effect of all *Kriyakalpas*. So that, in our daily practice and in OPD, we can use the various drugs and *kriyakalpas* respective of the different types and stages of *Netrarogas*. It is up to us that how we correlate scientifically according to diseases.

The *kriyakalpas* directly achieve the positive effect by giving concentration and rapid drug absorption at the target tissue which is not effectively done by systemic drug therapy. These are non surgical, cost effective and less time consumption procedures. Hence we can conclude that *kriyakalpas* has immense importance in prevention and control of *Netrarogas*.

REFERENCES

1. Agnivesh, Charak samhita with Charak Chandrika Hindi commentary Sutra Sthana Adhyay 17, shlok no.12, 335, written by Dr. Brahmanand Tripathi; by Chaukhambha Surbharati Pratishthan, Varanasi; part 1, reprint edi., 2003.

2. Agnivesh, Charak samhita with Charak Chandrika Hindi commentary Sutra Sthana Adhyay 30, shlok no.26, page no.565, written by Dr. Brahmanand Tripathi; by Chaukhambha Surbharati Pratishthan, Varanasi; part 1, reprint edi., 2003.
3. Sushruta Samhita with sushrut vimarshini hindi commentary, Sutra sthana, Adhyay 1 shlok no.2, page no.5 written by Dr Anant Ram Sharma and priyavrat sharma; pub. by Chaukhambha surbharati Sprakashan Varanasi; part 1, reprint edi., 2021.
4. Sharanagdhar samhita with Deepika Hindi Commentary Uttar khanda, 13 adhyay, shloka 1, 278 written by Dr. Brahmanand Tripathi pub. By chaukhamba surbharati prakashan, Varanasi., reprint edition., 2023.
5. Sushruta Samhita with sushrut vimarshini hindi commentary, Uttar tantra Adhyay18, shlok no.4, page no. 124 written by Dr Anant Ram Sharma and priyavrat sharma; pub. by Chaukhambha surbharati Sprakashan Varanasi; part 3, reprint edi., 2022.
6. Charak samhita with Vaidyamanorama Hindi commentary Chikitsa Sthana Adhyay 26, shlok no.231, 645, written by Dr. Priyavat Sharma; pub.by Chaukhambha Sanskrit Pratishthan, Delhi; part 2, reprint edi., 2013.
7. Sharangadhara Samhitha, Adhamalla Dipika and Kasirama's Gudhartha– Dipika hindi commentary, Chapter – 13, Netraprasadanakarmani Adhyaya, Verse 38, 281. written and edited by Pandit Parasurama Sastri, pub by Chaukhambha Orientalia, Varanasi, Reprint., 2012.
8. Agnivesh, Charak samhita with Charak Chandrika Hindi commentary Sutra Sthana Adhyay 13, shlok no.13, 264, written by Dr. Brahmanand Tripathi; by Chaukhambha Surbharati Pratishthan, Varanasi; part 1, reprint edi., 2003.
9. Sushruta Samhita with sushrut vimarshini hindi commentary, Uttar tantra Adhyay18, shlok no.17, page no. 126 written by Dr Anant Ram Sharma and priyavrat sharma; pub. by Chaukhambha surbharati Sprakashan Varanasi; part 3, reprint edi., 2022.
10. Sushruta Samhita with sushrut vimarshini hindi commentary, Uttar tantra Adhyay18, shlok no.6, page no. 124 written by Dr Anant Ram Sharma and priyavrat sharma; pub. by Chaukhambha surbharati Sprakashan Varanasi; part 3, reprint edi., 2022.
11. Sushruta Samhita with sushrut vimarshini hindi commentary, Uttar tantra Adhyay18, shlok no.33-37, 129 written by Dr Anant Ram Sharma and priyavrat sharma; pub. by Chaukhambha surbharati Sprakashan Varanasi; part 3, reprint edi., 2022.
12. Sharanagdhar samhita with Deepika Hindi Commentary Uttar khanda, 13 adhyay, shloka 2(278): written by Dr. Brahmanand Tripathi pub. By chaukhamba surbharati prakashan, Varanasi., reprint edition., 2023.

13. Sushruta Samhita with sushrut vimarshini hindi commentary, Uttar tantra Adhyay18, shlok no.47, page no. 131 written by Dr Anant Ram Sharma and priyavrat sharma; pub. by Chaukhambha surbharati Sprakashan Varanasi; part 3, reprint edi., 2022.
14. Sartha vagbhat Ashtang Hriday samhita Sutrastan adhyay 23, shlok no 1, 92, written by Dr. Ganesh Krushna Garde, Chaukhambha surbharati Sprakashan Varanasi edition, 2019.
15. Sushruta Samhita with sushrut vimarshini hindi commentary, Uttar tantra Adhyay18, shlok no.45, page no. 131 written by Dr Anant Ram Sharma and priyavrat sharma; pub. by Chaukhambha surbharati Sprakashan Varanasi; part 3, reprint edi., 2022.
16. Sartha vagbhat Ashtang Hriday samhita Uttarsthan adhyay 9, shlok no 9, 379, written by Dr. Ganesh Krushna Garde, Chaukhambha surbharati Sprakashan Varanasi edition, 2019.
17. Sushruta Samhita with sushrut vimarshini hindi commentary, Uttar tantra Adhyay18, shlok no.54, page no. 133 written by Dr Anant Ram Sharma and priyavrat sharma; pub. by Chaukhambha surbharati Sprakashan Varanasi; part 3, reprint edi., 2022.
18. Sharanagdhar samhita with Deepika Hindi Commentary Uttar khanda, 13 adhyay, shloka 21, 382 written by Dr. Brahmanand Tripathi pub. By chaukhamba surbharati prakashan, Varanasi., reprint edition., 2023.
19. Sharanagdhar samhita with Deepika Hindi Commentary Uttar khanda, 13 adhyay, shloka 30, page no.280 written by Dr. Brahmanand Tripathi pub. By chaukhamba surbharati prakashan, Varanasi., reprint edition., 2023.
20. Sushruta Samhita with sushrut vimarshini hindi commentary, Uttar tantra Adhyay18, shlok no.5-7, page no. 124 written by Dr Anant Ram Sharma and priyavrat sharma; pub. by Chaukhambha surbharati Sprakashan Varanasi; part 3, reprint edi., 2022.
21. Sushruta Samhita with sushrut vimarshini hindi commentary, Uttar tantra Adhyay18, shlok no.54, page no. 133 written by Dr Anant Ram Sharma and priyavrat sharma; pub. by Chaukhambha surbharati Sprakashan Varanasi; part 3, reprint edi., 2022.
22. Sushruta Samhita with sushrut vimarshini hindi commentary, Uttar tantra Adhyay18, shlok no.64, page no. 134 written by Dr Anant Ram Sharma and priyavrat sharma; pub. by Chaukhambha surbharati Sprakashan Varanasi; part 3, reprint edi., 2022.
23. Agnivesh, Charak samhita with Charak Chandrika Hindi commentary Sutra Sthana Adhyay 5, shlok no.18-19, page no.116, written by Dr. Brahmanand Tripathi; by Chaukhambha Surbharati Pratishthan, Varanasi; part 1, reprint edi., 2003.
24. Charak samhita with Vaidyamanorama Hindi commentary Chikitsa Sthana Adhyay 26, shlok no231: 645, written by Dr.Priyavat Sharma; pub. by Chaukhambha Sanskrit Pratishthan, Delhi; part 2, reprint edi., 2013.

25. Sartha vagbhat Ashtang Hriday samhita Uttarsthan adhyay 13, shlok no 97, 394, written by Dr. Ganesh Krushna Garde, Chaukhambha surbharati Sprakashan Varanasi edition, 2019.