

BIDALAKA: A REVIEW ARTICLE

Dr. Kalpana S. Wakode and Dr. Pooja N.Mhetre

Associate Professor, Shalakyatantra Department, Government Ayurved College, Nanded
P.G. Scholar, Shalakyatantra Department, Government Ayurved College, Nanded**ABSTRACT**

Shalaky Tantra, the potent branch of *Ayurveda* which deals with the *Urdhwajatrugata-vikaras*, gives prime importance to eye diseases¹. As far as sense organs are concerned Eye stays at the top due to its irreplaceable function. Hence to treat eye disease and preserve the vision, one should always work on priority. *Netra* is said to be the *Pradhana Indriya* and to protect the eye sight should be the prime objective. One should make all sincere efforts to protect eyes and treat eye diseases. *Sushruta* has mentioned 76 eye diseases out of which treatable diseases are treated with systemic as well as local treatment. *Kriyakalpas* are one group of special methods of drug administered locally into the eye for the treatment of eye diseases². Being local therapeutic procedure, fast action and penetration of drugs through ocular tissue raises importance of *Kriyakalpa* in ocular diseases. *Bidalaka* is one of the important *Kriyakalpa* explained in *ayurvedic* texts, which is having a vivid utility in many *Netra Rogas*. *Bidalaka* is used in condition of *Daha* (burning sensation), *Updeha*(stickiness), *Ashrusrava*(watering), *Shopha*(oedema) & *Raga*(congestion) in the eyes³. The probable mode of action of *Bidalaka Kriyakalpas* are yet to be explored. In this era of escalating of eye diseases, such an attempt is highly essential to uphold the scientific credibility of *Bidalaka*.

Keywords: *Bidalaka, Kriyakalpa, Netrarogas, Ocular Treatments, Urdhwajatru-vikaras.*

INTRODUCTION:

Ayurveda is a science of human well-being in physical, social as well as mental aspect. The treatment mentioned for every disease is not only to cure the disease but also to enhance the health and quality of life. *Kriyakalpas*, the specialized ocular treatment modalities, affirms the absolute necessity of unique approach towards *Netrarogas*, thus highlighting the importance of eye and eye diseases.

Ocular Therapeutics can be broadly divided into two i.e. either in the form of *Kriyakalpa* (local therapeutics) or systemic therapeutics. *Kriyakalpas* are the topical ocular therapeutics indicated in various *Netra Rogas* which has several advantages over oral administration of medicines as it provides more time for bio availability. Contemporary sciences also make use of transdermal absorption of medicines and are considered as an efficient method of drug delivery.

Kriyakalpa is a combined word of two distinct concepts which are *Kriya* which means therapeutic procedure and *Kalpa* which means medicinal formulation. The action of *Kriyakalpa* can be correlated with *Panchkarma*. *Panchkarma* is used for *sharir parimarjan* that is detoxification of body and settle *tridosha*. *Kriyakalpa* acts similarly locally. It settles the raised level of *doshas* and improves health of eyes. Before *Kriyakalpa* whole body *shodhana* with the help of *panchkarma* is important, that enhances the action and absorption of the Drug.

KRIYA

Kri + Sa pratyaya. The variants of which are *arambha, shiksha, nishkriti, pujana, sampradharana, upaya, karma, cheshta* and *chikitsa*. *Kriya* means to do, to perform or to practice: the word *kriya* refers here to medical treatment.

KALPA

Krip +Ghan pratyay- kalpa Means practicable, feasible, proper or competent method of curing the diseases or treatment of sick. Hence, the word *Kriyakalpa* literally means to perform proper treatment.

DEFINITION OF KRIYA KALPA

No specific definition of *Kriyakalpa* has been given by the ancient scholars except the commentator *Dalhana* who opines as to prepare various preparations like *Tarpana, Putapaka* etc. for the treatment of eye diseases.

Verily speaking, generally, *Sushruta* has advocated the line of treatment to all the diseases in the first stage, whereas, in case of failure in bringing down the disease process medically, he advises parasurgical interference.

There are 7 numbers of *Kriyakalpas* in *Netra Vigyan* explained by different *acharyas*. *Sushruta* mentioned 5 types of *kriyakalpa*. *Acharya Sharangdhara*⁴ added two *kriyakalpa* into it; named *Bidalaka* and *Pindi*. Types of *kriyakalpa* mentioned by different *acharyas*-

1. *Tarpana*- the word means feeling of satisfaction. In this procedure medicated *ghrita* is hold over eyeball with continuous blinking action of eyes for a stipulated time according to intensity and nature of aggravated *dosha*.
2. *Putpaka*- this 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*.

3. *Ashchyotana*- it is instillation of drops on an open eye from 2 *angula* height. The drops used may be in the form of *kwath*, *ksheera*, *sneha* or any *drava-dravya*.
4. *Seka/ Parisheka*- with eye closed, medicine is poured on eye in the form of *dhara* from the height of 4 *angula*.
5. *Anjana*- in this procedure paste or powder of medicines is used and applied over inner margin of lower lid with the help of applicator or finger tip.
6. *Pindi/ Kavalika*- this is nothing but a medicinal bandage. Paste of medicine is tied by a cloth and this pack is bandaged over the eye.
7. *Bidalaka* : *Bidal* means cat's eye. In this *kriyakalpa* paste of medicine is applied over eyelids and periorbital area.

AIM & OBJECTIVE:

1. To provide detailed description of *Bidalaka* from different *Samhitas*.
2. To collect different references of *Bidalaka Prayoga* in various eye disorders in *Ayurvedic* texts.

pirBaaYaa :

ibaDalakao baihlao-pao nao~ pxmaivavaija-t: || Saa.saM.].13

Bidalaka is defined as application of a paste over the eyelids; avoiding area of eye lashes; its procedure is similar to *mukhalepa*. *Bidal* means cat's eye. Eye looks like cat's eye hence called '*Bidalaka*⁴'.

Indications:

] %pnnamaa~o t\$Nao nao~raogao ibaDalak: |
kayaa- dahaopdohaEauSaaofragainavaarNa: || ca.ica.26/23

In the critical stage of the freshly occurring eye disease, *Bidalaka* (application of drugs in paste form over the closed eyelids excluding eye-lashes) should be applied to relieve burning sensation, stickiness (mucous discharge), lacrimation, swelling and redness⁵.

maa~a :

tsya maa~a pir&oyaa mauKlaopivaQaanavat\ | Saa.saM.].13

Bidalaka is the modified forms of *Lepa Kalpana*⁴.

*Matra*⁶ of *Bidalaka* is same as *Mukhalepa* as –

Kanishta Matra – ¼ *angula*

Madhyam Matra – 1/3 *angula*

Uttam Matra – ½ *angula*

QaarNa kala :

It should be removed before it get dried. If dried, it loses the property and spoils skin⁶.

Purvakarma :

Before all the *Kriyakalpas*, whole body *shodhana* should be done.

The medicine paste should neither be thick nor very thin. It should be semisolid paste.

Before applying *Bidalaka*, patient should comfortably lying down in supine position.

Mrudu snehan and *swedana* should be done on face and lids to relax patient and increase local vasodilatation for better absorption of drugs.

Pradhan Karma :

It is better to use luke warm paste for *Bidalaka*.

Patient should be asked to close the eyes and paste of medicine should be applied over closed eyes in circle except on lid margin and eyelashes.

Patient should be asked to keep his eyes closed.

The thickness of *lepa* should be considered according to severity of disease and aggravation of *doshas*.

Paschat Karma :

After *Bidalaka vidhi*, skin should be wiped out with cotton swab and lukewarm water. Wiping should be done before *lepa* gets dried.

After *Bidalaka* is applied following things are contraindicated: Sleeping during day time, being in sunlight for a long time and excessive speaking, laughing, weeping etc. If these measures are not followed it will cause itching, dryness, *Pinasa* and diminution of vision.

Various *Bidalaka Yogas*

	Reference	Content	Indication
1	Sharangadhar Samhita ⁴	<i>Yashti, Gairika, Saindhava, Darvi and Tarkshya</i> with water	<i>Sarvanetra Amay</i> ⁴ and <i>Adhimantha</i> and <i>Anyatovata</i> ⁸
2		<i>Rasanjan, Pathya, Leaves of Vishva, Kumari, Tender leaves of dadima, Vacha, Haridra and Nimb /Nagara</i>	-
3		Burnt ashes of <i>Saindhava & Lodhra, Madhuchchista</i> ^{4,8}	<i>Sadhya Netra Ruja</i>
4		Pulp of fruits of <i>Nimba</i> is kept in an iron vessel & rubbed with a iron mortar till the paste becomes thick.	<i>Netra Badha</i>
5		<i>Marich</i> is made into paste with juice of <i>Kesharaja (Bhrungaraja)</i>	<i>Arma</i>
6		<i>Manshila, Ela, Nata, Saindhava and Madhu</i>	<i>Anjananamika</i>

	Reference	Contents	Indication
7	Bhaishajya Ratnavali ⁷	<i>Saindhavadi Lepa – Saindhav, Daru haridra, Gairik, Pathya, Rasanjan</i>	<i>Akshiroga</i>
8		<i>Lodhra-Haritaki Bidalaka – Ghrit Bhrishta Shavarak Lodhra, Ghrit Bhrishta Haritaki</i>	
9		<i>Gairikadi Lepa – Giri mrutta, Chandan, Nagar, Khatika, Vacha</i>	
10		<i>Bhunyamalakadi Lepa – Bhunyamalaki, Saindhav, Ghruhavari, Tamra</i>	
11		<i>Shunti, Nimba Dala, Saindhava</i>	<i>Kaphaj Netra Roga-Shoth, Kandu, Vyatha</i>
12		<i>Durvadi Lepa – Durva, Yava, Gairika, Sariva with Ghrit</i>	<i>Ruja, Raga</i>
13		<i>Payasyadi Lepa – Payasya, Sariva Patra, Manjishta, Madhuk with Ajakshir</i>	

	Reference	Content	Indication
14.	Yogratnakar ⁸	<i>Marichadi Lepa- Marich, Bhibhitak with Haridra Swarasa</i>	<i>Arma</i>
15.		<i>Chandana, Ananta, Manjishta</i>	<i>Pittaj Abhishyanda, Pittaja Netra Roga (Ch.)</i>
16.		<i>Padmaka, Yashti, Jatamamsi, Kaliyaka,</i>	<i>Pittaj Abhishyanda (Y.R) Pittaj Netra Roga (Ch.)</i>
17.		<i>Chandana, Madhuk, Lodhra, Jatipushpa, Gairik</i>	<i>Pittaj Abhishyanda, Daha, Toda</i>
18.		<i>Rasanjan, Pathya, Tender leaves of Vishva</i>	<i>Kaphaja Abhishyanda</i>
19.		<i>Vacha, Haridra, Vishva, Nagara, Gairik</i>	<i>Kaphaj Abhishyanda</i>
20.	Charak Samhita ⁵	<i>Nagara, Saindhava and supernatant part of ghee</i>	<i>Vataja Netra Roga</i>
21.		<i>Madhu, Saindhav, Gairik</i>	<i>Vataja Netra Roga</i>
22.		<i>Ghrit Bhrishta Haritaki</i>	<i>Netra Ruja</i>
23.		<i>Gairik, Saindhav, Musta, Gorochana</i>	<i>Kaphaja Netra Roga</i>
24.	<i>Priyangu, Manshila with Madhu</i>	<i>Kaphaja Netra Roga</i>	
25	Ashtang Sangraha ⁹	<i>Haritsl. Saindhav, Shunti, Devdaru, Punarnava</i>	<i>Shopha</i>

26		<i>Chandana, Marich, Patra, Ela, Swarna Girika, Tagar, Rasanjan, Lavan</i>	<i>Abhishyanda</i>
27		<i>Darvi, Tuttha, Haritaki</i>	<i>Vata-Pittaja Abhishyanda</i>
28	<i>Ashtang Sangraha</i> ⁹	<i>Haritaki, Nagar, Rasanjan, Swarna Gairika</i>	<i>Kaphaj Abhishyanda</i>
29		<i>Kushta, Misi, Pippali, Chandan, Utpala</i>	<i>Vedana</i>
30		<i>Musta, Agaru, Chandana with Madhu</i>	<i>Shool, Daha, Raga</i>
31		<i>Saindhav, Agaru, Trijatak, Trikatu, Swarna Gairik, Kushta, Tagar, Shaileyak</i>	<i>Shool, Shwayatu, Daha, Raga</i>

Discussion:

As *Bidalaka* is applied in the form of paste over skin of periorbital area, skin permeability of drug should be taken into mind. As *Bidalaka* is applied over the skin. It rapidly penetrates the intact skin. Since the epidermis act as lipid barrier, the solubility of the drug depends upon the lipid solubility of the contents. Whereas the dermis is freely permeable to many solutes which helps in easy and fast absorption of drugs thus causing efficient results.

Skin thickness and permeability¹⁰:

Absorption of drug has regional variation at different body sites. Skin thickness takes a large part in skin permeability. Periorbital skin and skin over lids is thinnest of all over body. Hence paste applied over this skin gets absorbed more rapidly than any other part of body.

Temperature and permeability¹¹:

The skin permeability can be changed by changing temperature. With increase in temperature and vascularity, absorption of drug increases. In *Bidalaka*, prior massage and *mrudu swedana* increases temperature and vascularisation of the skin area. Medicinal paste for *Bidalaka* should be *sukhoshna* i.e. warm which gives soothing effect and enhances drug permeability.

Water and lipid Permeability¹²:

Paste for the procedure is made with either water or *ghrita* according to *dravya* solubility. Water and lipid permeability of skin enhances the drug permeability more. The epidermis layer of skin is selectively permeable for lipid and water content. Water soluble contents are absorbed through skin by a passive diffusion process. Drugs absorbed through physiological membranes finally enter the capillaries and blood stream and acts on target tissue.

Tissue contact time:

The *Bidalaka* is kept on skin for about 15-20 minutes depending on weather. It is wiped out before it gets dried. In *Bidalaka* the tissue contact time of the drug is more as compared to *Ashchyotana* and *Seka*. This increases the bioavailability. As more the contact time of drug more is the rate of absorption and more is the effect. This explains the use of *Bidalaka* in acute stage of disease to lower symptoms like burning, swelling, redness.

Vascularity of absorbing surface:

The absorption of drug is directly proportional to the vascularity of the applied surface. As *Bidalaka* is applied warm it increases the vascularity of the area hence increasing the absorption. The drugs mixed in *Bidalaka* possess their own property for eg. The drug mixed in *Bidalaka* possess their property and acts with their fundamentals for e.g. *Yashtyadi lepa Bidalaka* predominantly acts on *rakta* and *pitta*, its action is *pitta* and *daha shamaka*.

Bidalaka for cosmetology:

As *Bidalaka* is one of the type of *Lepa Kalpana*, it can nourish the skin and also increase its elasticity thus preventing ageing and wrinkling below the eyes. It can also be used in eye skin tag occurring with the increasing age

According to Ayurveda:

As it is said *Srotomaya Purusha* the whole body consist of *Sukshma Srotasa* or whole body is porous. Through this pores or channels the minute particles of drug applied in form of *Bidalaka* penetrates into the skin. At this stage the *Upshoshana Guna* of *Vata Dosha* contributes in the penetration and absorption of the drug. *Bhrajaka Pitta* present in skin is responsible for metabolism of the drug applied over the skin. *Bidalaka* when mixed with *Ghrta* can reach into the deeper tissues of the eye, as *Ghrta* is both hydrophillic and lipophillic in nature. *Bidalaka* mixed with *Madhu* can also reaches the deeper tissue because of its *Sukshma Guna* and its *Yogvahi* property.

CONCLUSION:

As *Bidalaka* is an external application procedure it can be used easily. It is useful in acute eye conditions or in *Amavastha* of the *Netra Rogas*. It gives soothing effect to the eyes, when used in appropriate condition in appropriate amount and for appropriate time it gives effective results.

Drugs taken systemically goes under digestion while drugs applied locally directly gets absorbed through blood stream and acts on target tissue. This makes *Kriyakalpa* selective line of treatment over systemic one. Oral drugs need to face various barriers like blood aqueous barrier, blood-vitreous barrier, blood-retinal barrier etc, while local therapy provides higher concentration in less

time. In *Kriyakalpa*, potency of drugs can be increased by altering temperature, concentration, tissue contact time and way of application while in systemic drug delivery one should treat according to *Pachaka pitta* and *jatharagni*. *Bidalaka* is useful to control acute symptoms and instant relief. It is user friendly and economic. Patient can carry on the treatment at home if once demonstrated. The side effects are comparatively less or negligible as there is no actual contact with ocular structures like conjunctiva or cornea. Thus *Bidalaka* treatment can be used widely in various eye diseases.

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