



SIGNIFICANCE OF OCULAR THERAPEUTICS IN INFLAMMATORY EYE DISEASES

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ABSTRACT

‘WE LIVE IN THE VISUAL WORLD’. The importance of eye was underscored in ayurveda by quoting eye as the most important of all sense organs: “Sarvendriyanam madhye nayanasya pradhanatvath”- eyes hold special status among all the sense organs. As panchakarma deals with many of the therapeutic procedures same way kriyakalpas are the topical therapeutic procedures for eye (ophthalmology). Modern ophthalmologists have convinced the new generation about the significance of eye care and right procedures to follow in order to ensure healthy vision; these are a part of virgin fields of medical knowledge hidden in ancient medical manuscripts, but the impact of Ayurvedic procedures for these ailments is yet to be recognised by public in general. one such ocular therapeutics is Kriyakalpa.

KEYWORDS: Bidalaka, seka, aschyothana and pindi.

INTRODUCTION

As we know shalakya tantra is one among the Ashtanga ayurveda, considering eye as the most important sense organ and Ayurveda the science of life gives a great importance for protection of eye and preservation of vision in all its views. There are various methods adopted in treating eye diseases with medications, kriyakalpas etc. kriyakalpas form ardhachikitsa in netra chikitsa because most of the disease we can cure by kriyakalpa. Netra kriyakalpas are ancient ocular therapeutics which are indicated in preventing the eye diseases at the hand of shalaki. Sushruta explained 5 kriyakalpas where sharangadhara explains 7 which include tarpana,

putapaka, anjana, aschyothana, seka, bidalaka and pindi. These kriyakalpas which does dosha nirharana and later helping in samprapthi vigatana. Considering the inflammatory stage of eye as amaavstha of netra rogas, Here highlighting the importance of kriyakalpa in amavastha. Mainly bidalaka, aschyothana, seka, pindi.

NETRA KRIYAKALPA

Kriyakalpa: Acc to Dalhana, su.u.18/2 “kriyanam tarpana putapakanam kalpanam karanam kriyakalpa”. It includes selection of specific drug form and finally its proper application to the eyes.

Kriyakalpas mentioned by different acharyas

Kriyakalpa	C.S	S.S	A.S	A.H	SHA.S	B.P	Y.R
Tarpana	+	+	+	+	+	+	+
Putapaka	-	+	+	+	+	+	+
Seka	-	+	+	+	+	+	+
Aschotana	+	+	+	+	+	+	+
Anjana	+	+	+	+	+	+	+
Pindi	-	-	-	-	+	+	+
Vidalaka	+	-	+	+	+	+	+

C.S - Charaka samhitha, S.S-Sushruta samhitha, A.S - Ashtanga sangraha, Sha.S-Sharangadhara samhitha, B.P-Bhava prakasha, Y.R-Yogarathnakara.

Inflamatory Eye Diseases: In ayurveda we can consider this inflammatory condition as amavastha of netra roga.

Inflammation is a part of complex biological response of body tissues of harmful stimuli such as pathogens, damaged cells or irritants, and is protective response involving immune cells and blood vessels. Classical signs of inflammation are pain, redness, edema, temperature. Here in the same way in netra roga Acharya Chakradatta explains the signs of inflammatory eyes are: *“Udirna vedanam netram raga shotha samanvitham Garsha nisthoda shooshashruyuktham amanvitham”*

Udirna vedana (severe pain), raga (redness), shotha (edema), garsha (foreign body sensation) nisthoda (pain), shoola (pricking pain), ashru yuktham (watering of eyes)- signs of inflammatory eye and the treatment given for amavastha *“Anjanam pooranam kwathapana ame na shasyathe”*ie; except Anjana, poorana (Tarpana, putapaka), kwathapana rest all kriyakalpas can be performed in amaavastha of netra roga.

## UNDERSTANDING DIFFERENT KRIYAKALPA

### BIDALAKA

Bidalaka is the application of medicated paste to the outer surface of the eyelids and not extended to eye lashes. Charaka was one of the principal contributors to ayurveda (6<sup>th</sup>-7<sup>th</sup> century BC), In charaka samhitha chikitsa sthana 26<sup>th</sup> chapter 236 verse says medicated paste should be restricted to the lids and not extended to eye lashes by this we can say charaka treatise provides first written record of application of medicated paste on skin of eyelids (bidalaka).

According to charaka samhitha wide range of Initial symptoms like daha (burning sensation), upadeha (sticky discharge), ashru (lacrimation), shopha (oedema), raga (redness) can be controlled only with bidalaka.

### Significance of Bidalaka

Tiryak dhamanis (vessels) which are present in skin of lids, when the medicine comes in contact with it and brajaka pitta present in skin of lids does pachana (absorption) through veerya (potency) of drugs. (su sha.9/9).

The skin present over the lids is extremely thin and the subcutaneous fat is absent, so the medicine is absorbed easily into the ocular tissue.

As there is no subcutaneous fat in the skin of eyelids the drug applied penetrates and reaches conjunctiva and cornea. since the tissue contact time is more helps in easier absorption therefore bioavailability will be enhanced. There by it reduces the inflammation.

### SEKA

Procedure of pouring the liquid medicines very slowly to closed eye at a height of 4 angula.

*“Sekasthu balavantharam”*

*Closed eye (mileeta akshasya) is specified to avoid the direct contact with the ocular tissue so when medicine is poured into the eye In view of the fact that the presence of narrow crease the medicated liquid reaches the eye without causing any irritation to the ocular tissues specifically in inflammations.*

*Sweda pralepa thikthanna seko dinachathushtaya ie, In Aamavastha of netra roga these 6 measures helps in mobilization and elimination of toxins in case of ama netra avastha here it can be consider as inflammatory condition.*

### Significance of Seka

Acharya Charaka says, drava sweda is best in relieving the pitta samsrusta vyadhi (vyadhi predominant of pitta guna) which is indirectly called as Seka. Sushruta says it is the virya (potency), Karma (Action) and Prabhava (special therapeutic action) of the drugs which acts, when it comes in to contact with the Skin (netra vartma), and siras of netra and bhrajaka pitta over vartma. By these quality of the drugs Pachana and Shamana (subsiding) of netra gata dosa can be attained.(su.sha.9/9).

Presence of carrier mediated mechanisms in the conjunctival epithelium has also been suggested to play an important role in transferring drug molecules to the interior of eye.

Depending upon drug used in Seka the local tissue pathology will be modified by virtue (desirable quality) of its attributes and mobilize the inflammatory cells and are eliminated from the affected tissue. There by it reduces inflammatory signs.

### ASCHYOTANA

Aschyotana is the first line of treatment in eye diseases. Acc: Sharangadhara: Instillation of medicine to the open eye (kaninika sandi or centre of cornea) from a height of 2 angula is called Aschyotana.

### Significance of Aschyotana

When the drugs are administered topically in the eye, the pathway of penetration is through cornea (transcorneal pathway) or the conjunctiva (trans conjunctival), it is known that most of the active substances for topical absorption are absorbed through transcorneal pathway. The corneal epithelium allows, the passage of water repellent active substances through epithelial cells by diffusion (trans-cellular pathway) and of hydrophilic substances between the space. According to our acharyas either we can administer the medicine in medial canthus or directly on centre of cornea. In corneal tissue it can be of two types transcellular and paracellular. Transcellular drug movements include tissue partitioning and diffusion, channel diffusion and carrier mediated transport paracellular represents diffusive movement occurring through intercellular spaces and also tight

junctions. Water soluble contents in case of eye drops (aschyotana) traverse the cornea by paracellular pathway, Lipid soluble contents in the eye drops traverse the corneal epithelium. Because of the thickness and porosity of the cornea and its lipophilicity and hydrophilicity balance penetration will be rapid which helps in relieving the inflammation at the earliest.

## PINDI

*pindi kavalikaproktha badhney pattavasthrake ! (sha.uttara.13-21-22)*

*pindi is the procedure mentioned by sharangadhara.*

It is the slight modification of the procedure vidalaka. Instead of directly applying the medicine to the eyelid, packing is done by using thick cotton cloth and are kept tightly over the eye lids.

## Significance of Pindi

The drug absorption is through transdermal therapeutic system. It enable one to avoid the peaks and valleys in the drug plasma levels. The results suggested that trans dermal therapeutic system was more effective than topical or oral administration, it is safe and effective method. Absorption of hydrophilic drugs is better through conjunctival sclera route. Skin of eyelid is devoid of subcutaneous fat tissue so absorption to the palpebral conjunctiva is easier as like in vidalaka and bioavailability of drug is more in case of pindi. Due to heat of medicine, local temperature is increasing resulting vasodilation. Pindi when kept over the eyes, the active principles of the drugs which are highly concentrated absorbed through transcutaneous absorption.

In modern there is a mentioning of padding, the therapeutic part is immobilization of the upper lid to prevent blinking in case of corneal abrasion ie, from expanding the abraded area and to give the epithelium a chance to glide and grow to cover it.

## CONCLUSION

The eye is a unique and necessary organ that is constantly exposed to the environment. Inflammatory conditions of the eye are serious condition which needs treatment immediately in ayurveda which are mainly treated with the kriyakalpa to reduce the inflammation and pain. Ocular therapeutics and the treatments have been the attractive areas for scientific investigation since the ancients time; 21<sup>st</sup> century has witnessed explosive growth and development in this field.

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