

**REVIEW OF UNIQUE OPHTHALMIC FORMULATIONS IN
TRADITIONAL BENGAL LITERATURE**

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ABSTRACT

Around the start of the nineteenth century, Bengal was home to traditional Ayurveda teaching and practise. There, doctors were referred to as Kaviraaj. Kaviraaj used to recommend home-made medications. Bengal had the renowned kaviraaj in the 18th and 19th centuries. Several of them were extremely well-known. 1. Kavindra Gangadhar Roy, 2. Dwarkanath Sen, 3. Kavindra Yaminibhushan Roy, and 4. Kavindra Shyamadaas vacaspati. In the Bengal ayurveda literatures there were many low budget formulations which can be easily prepared and can be cost effective. Ayurveda ophthalmology has been described in these literatures. Many unique formulations for various clinical conditions are described. One can also get few herbomineral formulations too. So we need to review those ophthalmology formulations to bring them in spotlight as it would prove a fruitful aid for the clinicians in day to day practice.

KEYWORDS: Ayurveda, ophthalmology formulations Bengal ayurveda literature.

BACKGROUND

Ayurveda is the oldest medical science in the world. It was believed that ayurveda originated 5000 years ago. Ayurveda is eternal and reasons for its eternity –Anaditva(it has no beginning), swabhavsamsiddhtva(deals with things inherent in nature) and bhavswabhav nityatwa(eternal natural manifestations) Around the start of the nineteenth century, Bengal was home to traditional Ayurveda teaching and practise. There, doctors were referred to as Kaviraaj. Ayurveda suffered a severe setback and faced peril when the nation was under British control. Despite the British government's best attempts, our country was able to recover its traditional wisdom. Thanks to the cunning resistance of our outstanding doctors. As a result, Ayurveda was given its freedom. The famous Bengali scholars gangadhar roy, haranchandra chakraborty, vijayratna sen, gangaprasad sen, kaviraj yaminibhushan roy, and gananath sen preserved the traditional Indian medical system from the resurgence of the contemporary allopathic medical system, along with their adherents. Ayurveda provides information on the preventive and therapeutic aspects of ophthalmology. It is also important to improve the traditional remedies listed in Bengali ayurvedic literature that have been clinically proven effective by traditional practitioners. In order to put traditional ophthalmic formulations in the spotlight and on numerous research leads, it was felt that it was necessary to go back to the beginnings and evaluate that literature.

Formulations

A) Eye Drops (Aschyotana):- The first line of treatment for eye pain, redness, watering, and burning is eye drops. It is advisable to use special herbal juice, latex, or even butter preparations as eye drops.

1) Pain in eyes can be reduced if the patient uses rose water to cleanse his/her eyes.^[1] Flavonoids, anthocyanins, and terpenes are found in the blooms of roses (hips and petals). Moreover, roses are abundant in phenolic compounds, which have anti-inflammatory and antidepressant qualities and scavenge free radicals. Putting rose water on your eyes instantly calms them.

2) Tambul patra juice.^[2] if used as drop in evening time in night blindness patients. It can be cured within 2 days. It may be considered to be beneficial in eye diseases of *Kapha* origin. Studies have shown that extract of betel leaves significantly inhibits the growth of staphylococcus aureus in bacterial conjunctivitis. To reveal this combination's scientific

mechanisms of action, biochemical research are needed. To document the safety profile of utilizing betel leaf juice as ocular therapeutic agents, toxicological investigations are also required.

B) Oral medications

1) **Timirhara lauha**^[3] This vatika can be prescribed in any condition of timir with anupaan ghrita and madhu. haritaki, amalaki, bibhitaki, yashtimadhu, padmakashtha all taken 1 tola (1 tola--11.66gm) and loha bhasma 5 tola. All the contents triturated in water and vati made. Dose -3 ratti (1 ratti-125 mg).

2) **Kshata shuklahara guggul**^[4]- used in kshata shukla, vrana shukla, avrana shukla with anupaan ghrita & madhu.

3) **Eating firefly (*Lampyrus noctiluca* L)**^[5]: Firefly should be put into ripe banana and this banana if consumed cures night blindness. So, it can be assumed that eating firefly has an impact on human retina, which needs to be verified through scientific and clinical research. Its potential importance in conditions like retinitis pigmentosa [RP] must be investigated.

C) Collyrium formulations (Anjana)

1. Rasanjan, haridra, daru haridra, Nimba patra and jati patra^[6] all taken in equal quantities and triturated in cow dung juice and varti is prepared, used for anjana to cure night blindness. To reveal this combination's scientific mechanisms of action, biochemical research are needed.
2. Goat liver fried ghrita or goat liver siddha ghrita^[7] if consumed, night blindness can be cured. We now understand that a vitamin A deficiency is the root cause of night blindness and that eating liver has actual therapeutic value. Fish liver is also highly rich in vitamin A because the liver serves as the body's main repository for the vitamin.
3. Pippali should be cut into pieces and mixed with goat liver^[8] and triturated in goats urine and made into varti. Anjan by this varti can cure night blindness
4. Kumarika varti^[9] 80 tila pushpa, 60 pipali 50 jati pushpa and 16 marich should be triturated and varti made to be used in cataract.
5. Panchashatika varti.^[10] -100 nilotpalapatra, 100 yava, 100 jatipushpa, 100 pipali, 100 sona moong dal triturated together and varti prepared from it is used in timir and kaach diseases.

6. A clean piece of cloth is burnt on tamra patra and after its complete burning 10-15 drops of sarshap tail should be added to ash and mixed well on the tamra patra for 10 mins and then karpura is added and again mixture is rubbed well against tamra patra for the another 10 mins, this is used as anjan daily 2-3 times for itchy eyelashes. Hence, scientific documentation of this simple formulation may help in tackling chronic eye diseases through *Ayurveda*.^[11]
7. Brihati Root bark of eranda, Root bark of shigru and saindhav lavana triturated in goats milk and varti is prepared.^[12] The best application for this varti is anjana in various eye ailments. Shigru is in possession of the properties Katu, Tikta Rasa, Laghu Ruksha Teekshna Guna, Ushna Veerya, Katu Vipaka, and Kapha Vata Shamaka. Tikta rasa reduces Abhishyanda and itching and has the qualities of Vishagna, Krimigna, and Kandu Dahashamaka. The dichloromethane extract of *Moringa oleifera* has excellent antioxidant activity. Moreover, it is said to have anti-inflammatory, antibacterial, antioxidant, hepatoprotective, ulcer- and cancer-preventive properties as well as diuretic, antiurolithiatic, and helminthic properties. Eranda possessing the qualities of Shulahara-Shothahara-Vedanasthapana Karma, Snigdha- Tikshna- Sukshma Gunas, Ushna Veerya, and Madhura-Katu-Kashaya Rasa. This reduces Vatadosha. The medicine operates through the tiny channels of the skin and conjunctiva as a result of the Sukshmaguna. The dryness of the ocular surface is decreased as a result of the Snigdhaguna. Eranda's Shoolahara property may provide relief from the discomfort.

Nasya:- Administration of drugs by the route of nasal cavity is termed as nasya.

Daily bhringaraj tail nasya in morning reduces burning and watering of eyes. The potent Chakushya properties of bhringaraj make it extremely beneficial for improving the eyesight.^[13]

Dhupana:- Dhupana is nothing but a fumigation.

Sigru pallava dhupa:- Dhupana (Fumigation) with the juice of sigru pallava svarasa mixed with ghee is rubbed in copper vessel removes sotha, gharsa, asru and vedana. Extract of *Moringa oleifera* has excellent antioxidant activity. Moreover, it is said to have anti-inflammatory, antibacterial property.^[14]

Agantuja Netra roga:- Santarpana measures such as snigdha, sita etc should be applied and in the evening triphala should be used in case of loss of vision by seeing at sun-eclipse, bright fire, thunder bold. Triphala has free radical scavenging effect, and immunomodulatory effect.^[15]

Some other procedure

If the patient uses cloth, soaked in juice of raw haridra to clean his/her eyes the redness of eyes is reduced.^[16] Haridra has anti-inflammatory, anti allergic properties. Its chemical composition Curcumin is useful in reducing inflammation, burning sensation and redness in the eyes due to its anti inflammatory property.

For watering and redness of eyes bolus made from nimba patra shunthi and saindhav should be placed over eyes after mild heating and the process should be continued for 8 days.^[17] Nimba has Tikta rasa, Ushna, Teekshna, Rooksha, Chakshushya and Krimighna guna those help to counteract the Kapha vitiation. Nimba has antibacterial, antifungal, anti-inflammatory properties. It has rich source of Vitamin A, Vitamin C which is used as supplements to combat the symptoms of conjunctivitis. Vitamin A reduces infection; Vitamin C strengthens the defense mechanism. Saindhava Lavana is Guru and Snigdha in Guna and Vatapittashamak whereas Shunthi is Ushna Veerya and Madhura Vipaka drug and hence Vata kapha shamak.

Some unique formulation

A) Sukraghna yoga(combination that effective in reducing corneal opacity)

- (1) Svarna maksika mixed with honey
- (2) Madhuk sara mixed with honey
- (3) Bibhitaka phala majja mixed with honey
- (4) Saindhava lavana mixed with honey are used as anjana in savrana sukra.^[18]
- (5) Danta Vartti:- Prepare the microfine powders of elephant teeth, boar teeth, camel teeth, cow teeth, horse teeth, goat teeth, Ass teeth, conch shell, pearl teeth, cuttle teeth, marica pounded with water and made into small sticks. This vartti is known as Danta vartti and cures even ksata sukra.^[19]

This simple and easy formulation may be useful in controlling corneal ulcers/opacities in daily practise in a cost-effective way. There is a need for research-based evidence on this.

B) Low vision

1) Gandupadadyanjana:- Dead earth worm are cleaned with laksa rasa and mixed with yasti madhu churna. Then it is kept with in cotton wick lavigated with laksa rasa and ignited with ghee. The black smoke coming out is collected in a glass wear.^[20]

Method of use: Anjana

Indications Durandhya (myopia), nikatandhya (metropia), nisandhya (night blindness and other types of timira).

Some surgical technique

1) **Treatment of Arma(ptyerygium):-** If the arma (ptyerygium) extended to black portion, it should be excised after uplifting it with needle followed by piercing with a hook leaving one third portion in order to avoid damage to pupil.^[21]

2) **Treatment of ajakajata(Staphyloma):-** The fluid should be evacuated from ajaka (staphyloma) by piercing with needle from side followed by application of gomamsa churna mixed with ghee.^[22]

Scientific documentation of its extent of effectiveness on pterygium and staphyloma needs to be explored.

DISCUSSION

As a result, it can be said that the Bengal ayurvedic ophthalmology treatment uses a considerable amount of animal products in addition to herbal and mineral goods. These formulations are basic, straightforward, and made from readily available medications, which may give a researcher or clinician an added advantage of cost effectiveness. It is advised to carry out preliminary analysis of these mixtures to produce proof. The standardisation and formulation of drugs should follow the guidelines set forth by API and AFI.

CONCLUSION

Ophthalmic compositions in Bengal Ayurveda literature provide light on numerous folkloric medicinal concoctions that have undergone clinical testing.

Fewer, more readily available, and reasonably priced ingredients are used to create these special formulations. This might be beneficial in everyday therapeutic practise. Evidence-based study data is strongly necessary even if these compositions are based on time-tested folklore and are therapeutically useful.

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