ABSTRACT
Eyes are one among the sense organ which comprises of 70% of all our perception of the world around us. Hence, an obstruction in our eyes, which threatens our vision, is a very severe handicap indeed. Thus, our eyes are the precious gift from God and therefore deserve the best care. Timira is a disease of Drishtimandala attributing wide range of clinical condition starting from mild blurring of vision to the potential risk of permanent vision loss. Treatment modalities like kriyakalpas are mentioned in Ayurvedic Classics with the aim of promotion and preservative of vision. Much work, researches and clinical trials had been carried out in most of the Institutions, Hospitals across the globe, yet the clinical research on the promotion of eyesight from Ayurvedic drugs is still an initiative.
Hence this study is planned to assess the efficacy of Varti kalpana. The drug selected is Kokila Varti\(^1\) having Chakshushya\(^2\) properties targeted on eye and visual apparatus.

**Keywords:** Prathamapatalagata Timira, Kokila Varti, Simple Myopia

INTRODUCTION
Ayurveda is an ancient holistic medical system that originated in India more than 5000 years ago. It is considered as the Upavedha of Atharva veda. Among eight branches of Ayurveda (Ashtanga Ayurveda) Shalakya tantra is one, mainly dealing with diseases occur above the clavicle specially related to sensory organs (i.e Netra, Nasa, Karma, Mukha, Shiras). It is also called as “Urdhwanga Chikista”. Netra rogas have been given prime importance which is evident from the fact that 19 chapters among the 28 chapters of Shalakya tantra in Shruthra samhita are devoted to the eye diseases and their management. Timira is one among Drishtigata Rogas, which are 12 as per Acharya Sushruta\(^1\) and 27 as per Acharya Vagbhata. According to classics, there are 6 Patalas (layers of eyeball) in which two are Bahya described as Bahya Vartmagata Patalas
and four covering the eye ball constitutes Abhyanta Patalas. Shalaka is an instrument used to pierce or to cut the Netra Patalas (Tunics of eyeball).

When the vitiated doshas will move in upward direction and reach the first patala of the eye, Patient will have blurred vision. This stage is characterized by Abyakta darshana by Acharya Sushruta. It is also termed as Animitta avyakta rupa darshana by Acharya Vagbhatta. According to Acharya Dahan, the innermost covering of drushti should be considered as first patala. The flow of malas will reach innermost region first and later gradually spread to other patalas.

The anatomical consideration of the patalas as symptoms of vitiated doshas situated in these constitutes Timira. The errors of refraction can be correlated with Prathamapatalagata Timira i.e. Simple myopia.

Myopia or short sightedness is a type of refractive error in which parallel rays of light coming from infinity are focused in front of retina when accomodation is at rest. Simple myopia or a subtype of myopia progresses during childhood and adolescent’s exceeds 5-6D. Role of genetics is important in biological variation of the development of eye as prevalence of myopia is more in children with both parents myopic. Overall reported prevalence is 20-40% of population since the sharpest rice occurs at school going age i.e. between 8years to 12years so it is called as school myopia.

As there is a great advancement in surgical ophthalmology, the treatment modalities remain expensive. The optical correction which constitutes prescription of appropriate concave lenses neither cures nor checks the progression of pathology. Not much medicine is invented to preserve the eyesight of myopic patients. Hence, there is a scope for further studies to evolve a new remedy or therapy in Ayurveda.

Kokila varti which comprises of trikatu, loha bhasma, saindhava lavana, triphala and souviranjana.

**AIM AND OBJECTIVES**

1. To assess efficacy of Kokila Varti in the management of Prathamapatalagata Timira.
2. To review in detail about Prathamapatalagata Timira.

**REVIEW OF LITERATURE AND DRUGS:**
- Description of Timira, nidana, laxana and chikitsa in Ayurvedic classics
- Description of myopia in modern science

**MATERIALS AND METHODS**

**Drug source**

Table 1: Varti Kalpana is explained as one of the treatment principle in Timira. The drugs in Kokila varti are having Chakshushya property.

<table>
<thead>
<tr>
<th>Sl No.</th>
<th>Drugs</th>
<th>Botanical Name</th>
<th>Proportions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Maricha</td>
<td>Piper nigram Linn.</td>
<td>1 Part</td>
</tr>
<tr>
<td>2.</td>
<td>Shunti</td>
<td>Zingiber officinalis</td>
<td>1 Part</td>
</tr>
<tr>
<td>3.</td>
<td>Pippali</td>
<td>Piper longum Linn.</td>
<td>1 Part</td>
</tr>
<tr>
<td>4.</td>
<td>Louha Bhasma</td>
<td>Ferros oxide</td>
<td>1 Part</td>
</tr>
<tr>
<td>5.</td>
<td>Saindhava Lavana</td>
<td>Rock salt</td>
<td>1 Part</td>
</tr>
<tr>
<td>6.</td>
<td>Hiritaki</td>
<td>Terminalia Chebula Retz.</td>
<td>1 Part</td>
</tr>
<tr>
<td>7.</td>
<td>Bibhitaki</td>
<td>Terminalia belarica Roxb.</td>
<td>1 Part</td>
</tr>
<tr>
<td>8.</td>
<td>Amalaki</td>
<td>Emblica ribes Gaertn.</td>
<td>1 Part</td>
</tr>
<tr>
<td>9.</td>
<td>Souviranjana</td>
<td></td>
<td>1 Part</td>
</tr>
<tr>
<td>10.</td>
<td>Triphala kwatha</td>
<td></td>
<td>q.s</td>
</tr>
</tbody>
</table>
All the above ingredients are taken in equal quantity and triturated along with Triphala kwath for 1 day on attaining proper consistency Vartis are prepared. After drying in sunshade it is preserved in glass bottle. If applied in the form of Anjana along with little water it alleviates Timira Roga. This varti resembles like ‘Kokila bird’ and hence the name Kokila Varti.12

**Maricha**5:
Synonyms: Ushna, Krshna, Dhanvantari, Dharma-pattana.

**Pharmacodynamics:**
Rasa: Katu
Virya: Ushna
Guna: Laghu, Tiknsha
Vipaka: Katu

**Karma:** Kapha-Vatahara, Avrasya, Dipana, Pramathila

Indications: Peenasa, Kasa, Pravahika, Krimi, Svasa, Sula by katu rasa, ruksha guna and ushna veerya it pacifies kapha and vata doSha. It contains the phytochemical called Piperine which has a great role in increasing the bio availability of the drug. It increases the absorption of the drug in the blood stream.

**Pippali**7:
Synonyms: Kola, Capala, Tishna Tandula, Magadhi, Vaidehi

**Pharmacodynamics:**
Rasa: Katu
Virya: Ushna (Ardra-Sita)
Vipaka: Madhura

**Guna:** Laghu, Snigdha, Tiknsha (Ardra-Guru)

**Karma:** Vata Slesmahara, Dipana, Vrshya, Rasayana

Indications: Udara, Pliharoga, Prameha, Sula, Eye diseases

Major Chemical Composition: Piperine, Piplatine, essential oils etc

**Shunti**5:
Synonyms: Nagar, Srngaver, Vishva bhesha, atubhadra

**Pharmacodynamics:**
Rasa: Katu
Virya: Usna

Vipaka: Madhura

**Guna:** Guru, Ruksha, Tiknsha

**Karma:** Vata-kaphara, Dipana, Bhedana

Major Chemical Constituents: Zingiberol, Geraniol, citronellol etc

**Lohabhasma**6:
Synonyms: Krishna loha, Krshnayasa, Shilatama

**Pharmacodynamics:**
Rasa: Tikta, Kashaya,
Virya: Sita

**Guna:** Ruksha, Guru, Lekhana

**Karma:** Gulma roga, Krimi roga, Chakshushya, Varnya etc

Major Chemical Composition: Ferrous, Ferritin etc

**Souviranjana**6:
Synonyms: Souvira, Suviraja, Krishnanjana and Kalanjana

**Pharmacodynamics:**
Guna: Grahi, Snigdha, and sheeta

**Karma:** Raktapitta, netra roga, visha doSha, hikka roga etc

**Saindhava lavana**1:
Synonyms: Panimantha, Sitasiva, Sindhuja

**Pharmacodynamics:**
Rasa: Madhura

**Guna:** Laghu, snigdha, sukshma

**Virya:** Sita

**Karma:** Deepana, Pachana, tridoshagna, Vrushya

Indications: Eye disorders

**Haritaki**5:
Synonyms: Amrutha, Abhaya, Vayastha, Pathya, Vijaya, Shiva

**Pharmacodynamics:**
Rasa: pancharas except lavana, Kashaya mainly

**Virya:** Ushna

**Guna:** Laghu, Ruksha

**Karma:** Tridoshara, Anulomana, Rasayana, Prasajathapana, Chakshushya, Lekhana

Therapeutics: Sotha, Prameha, Netra rogas, vrana, chardi, krimi, kasa, svasa etc

**Major chemical constituents:**
Fruits: Anthraquinone glycoside, tannic acid, chebulic acid
Fruit Kernel: Archidic, behendic, palmitic
Flowers: Chebulin

**Vibhitaki**:  
Synonyms: Akshaphala, Kalidruma, Karshaphala

**Pharmacodynamics:**  
*Rasa*: Kashaya  
*Virya*: Ushna  
*Vipaka*: Madhura  
*Guna*: Rusha, Laghu  
*Karma*: Kapha-pittahara, Keshya, Chakshusya, Bhedhana, Madaari (Phala majja)

Therapeutics: Jwara, Kasa, Atisara, Chardi, Netra vikaras etc

**Major Chemical Composition:**  
Fruits: Fructose, Galactose, Glucose, Mannitol, Seed: Edible oil  
Bark & Heartwood: chebulagic acid, ellagic acid

**Amalaki**:  
Synonyms: Abhaya, Amruta, Dhatri, Vayastha, Sita-phala, Vrshya

**Pharmacodynamics:**  
*Rasa*: Amla Pradhana pancharasa  
*Virya*: Sita  
*Vipaka*: madhura  
*Karma*: Tridoshahara, Vayasthapan, Rasayana, Chashusya, Vrshya

Therapeutics: Prameha, Raktapitta, ushta, Netra rogas, Soma, Arsha etc

**Major chemical constituents:**  
Root: Ellagic acid, Lupeol, oleanolic aldehyde  
Bark: Leucodelhinidin, Tannins  
Fruit: Vit. C, phyllemblin, linolic acid and salts etc

**DISCUSSION**

One out of Eight branches of Ayurveda, Shalakya Tantra deals with the aetiology, diagnosis, prognosis, prevention and treatment of diseases which are situated above the clavicle. *Vata prakopaka nidhana* could be considered as a main etiological factor to precipitate the clinical entity of Simple Myopia. Maximum number of the people affected is from school going age group and having a habit of working on Computers and studying for long time. *Chakshushya Rasayana* is atmost necessary to control the progression and management of Simple Myopia. The use of *Varti* in the form of *Anjana* with *Tridosha shamaka*, *Chakshushya*, *Rasayana* properties constitutes basic therapeutic approach in alleviating the symptoms of Simple Myopia. This review supports the theory which states that excessive use of accommodation will lead to the development of Simple Myopia.

**PROBABLE MODE OF ACTION OF KOKILA VARTI:**

Basically, *Varti kalpana* come under *Vati kalpana* which differs in shape and usage. *Vartis* are elongated with tapering ends while *vatis* are round in shape.

*Varti* help in expelling the collected *mala*, *mutra*, *puya*, *rakta* etc *doshas* and thus helps in therapeutic field.

Tropical treatment is very unique effective in management of Eye Disorders. *Varti* which is applied on lower palpebral conjunctiva, the active principles may be transferred to interior of eye according to their Hydrophilicity and Lipophilicity respectively. The PH, Viscocity, tonicity, molecular size and molecular weight of active ingredients are highly responsible for absorption of *Varti*. The phytochemical called ‘Piperine’ which has great role in increasing the bioavailability of the drug. Longer the drug and the tissue contact in the treatment carried out, better will be the drug absorption and higher bioavailability. Better rate of drug absorption is seen with lipid soluble drugs as their penetration rate will be higher irrespective of molecular size.

**CONCLUSION**

*Timira* one among the *Drishtigata roga* affecting the *Patalas of Netra* can be compared with Errors of Refraction treated with *Kokila Varti* followed by *Pathya* and *Apathya* of *Netra Rogas*. Hence, prophylactic measures for *Prathamapatalagata Timira*...
mentioned in *Ayurvedic* classics along with *nidhana parivarjana* and suitable *kriyakalpas* will prevent age related eye diseases like Myopia, Cataract etc and will also delay its further progressive stages. Higher corneal permeability during inflammatory conditions indirectly helps in better rate of drug absorption as a result higher therapeutic efficacy can be expected.

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