AYURVEDIC MANAGEMENT OF KERATOCONUS - A CASE REPORT

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ABSTRACT
Keratoconus (KC) is a progressive disorder in which central corneal stromal thinning occurs, accompanied by apical protrusion and irregular astigmatism. Approximately 50% of normal fellow eyes will progress to Keratoconus within 16 years. Both eyes are affected eventually. It is diagnosed by clinical examination and corneal topographic techniques. Management of keratoconus includes contact lens and keratoplasty. Based on symptoms it can be correlated with Pratama patalagata timira of Vata dosha predominance. In this case report, a 23 year old male patient was diagnosed as keratoconus and underwent Ayurvedic treatment protocol according to the line of management of Prathama patalagata timira which is vatahara and bhramhna in nature. sadyovirechana with nimbaamritaerandataila, shirovirechana with anutaila,tarpana with mahatriphaladi Ghrita followed by oral medication by mahatriphaladi Ghrita for 15 days. He showed signs of visual improvement after treatment.

KEYWORDS: Keratoconus, Prathama patalagata timira, Shirovirechana, Netrakriyakalpa.

INTRODUCTION
Keratoconus is one of the corneal ectasias, it is a noninflammatory bilateral ecstatic condition of the cornea in its axial part. It usually starts at puberty and progresses slowly, based on morphology keratoconus is divided into 3 viz, nipple conus, oval conus, and globus conus. The main symptom is defective vision due to progressive myopia and astigmatism, signs include a distorted cuindous reflex, irregularity of circles on placid disc scissor reflex on streak retinoscopy, an annular dark shadow separating the central and peripheral cornea “oil droplet” reflex on distant direct ophthalmoscopy, and Munson sign in advanced cases, where
the lower eyelid bulges on downgaze which does not improve fully despite full correction with glasses.[1]

Symptoms can be considered as pratamapatalagata timira with predominance of vata dosha. Pratama patalagata timira is one among the drustigata roga where the doshas are lodged into the pratamapatala i.e tejojalashrita patala. The blurring of vision is the cardinal feature of keratoconus. It is seen in pratamapatalagata timira as “avyktarupa darshana”. [2] The management includes grithapana[3], nasya[4], virechana[5], anjana[6], and other netrakriyakalpa[7], and siravyadh[8].

**CASE REPORT**

Chief complaints: A 23-year male patient approached shalakya tantra OPD of SJGAMC Koppal, with complaints of blurring of vision for distant vision since 6 months in the left eye.

**HISTORY OF PRESENT PATIENT**: The patient was said to be apparently normal before 6 months. Gradually he developed blurring of vision in the Left eye, hence he approached our hospital for further medical management.

**H/O PAST ILLNESS**: The patient was diagnosed with B/L Keratoconus (Rt >Lt) in 2008. He underwent C3R surgery in 2009.

**Table 1**: Based On the Findings In Table 1, The Patient Was Diagnosed With Keratoconus.

<table>
<thead>
<tr>
<th>S NO</th>
<th>RIGHT EYE</th>
<th>LEFT EYE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DV</td>
<td>6/18</td>
</tr>
<tr>
<td>2</td>
<td>NV</td>
<td>N8</td>
</tr>
<tr>
<td>3</td>
<td>CORNEA</td>
<td>Thinning</td>
</tr>
<tr>
<td>4</td>
<td>SCLERA</td>
<td>Normal</td>
</tr>
<tr>
<td>5</td>
<td>PUPILLARY RECTION</td>
<td>Within normal limit</td>
</tr>
</tbody>
</table>

**Table 2**: Treatment adopted.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Virechana</strong></td>
<td>Nimbamruta eranda taila</td>
<td>25ml of taila was administered in the night with lukewarm water. 4 urges were recorded.</td>
</tr>
<tr>
<td><strong>Nasya</strong></td>
<td>Anutaila</td>
<td>8drops of the lukewarm oil were instilled into each nostril after doing a massage over the face. for 5 days</td>
</tr>
<tr>
<td><strong>Tarpana</strong></td>
<td>Mahatriphaladi Ghrita</td>
<td>The lukewarm medicine was instilled into the cavities. The patient was instructed to blink on a regular intervals for 7days</td>
</tr>
<tr>
<td><strong>Orally</strong></td>
<td>Mahatriphaladi Ghrita</td>
<td>10ml od with warm water for 15 days</td>
</tr>
</tbody>
</table>
RESULTS

Table 3: Improvement in visual activity as shown in the table,3.

<table>
<thead>
<tr>
<th></th>
<th>BT</th>
<th>AT</th>
</tr>
</thead>
<tbody>
<tr>
<td>RT EYE</td>
<td>6/18</td>
<td>6/9</td>
</tr>
<tr>
<td>LT EYE</td>
<td>6/9</td>
<td>6/6</td>
</tr>
</tbody>
</table>

DISCUSSION

Keratoconus is a bilateral noninfectious, non-inflammatory disorder of the eye which results in gradual thinning of the cornea and distorted vision. It occurs in late childhood or early hood. This degenerative condition of the cornea results in thinning of the stromal layer with consequent forward bulging of normal shape cornea into conical shape due to structural weakness of collagen fibers. In contemporary science, C3R and INTACS is advised to strengthen the stroma tensile and flatten the central cornea, ‘vayustantra yantradharaha ’Vata is responsible for the formation of normal body parts. “Sarvendriyana udyojakah”[9] perceptibility of the sense organs are caused and brightened by Vata. And Krishna mandala is originated from vayu mahabhutha. Any defect in the function of Vata leads to Krishnagata roga, considering the dosha involvement the treatment should be vatahara. in this disease sadyovirechana with erandataila, shirovirechana with anutaila, tarpana with mahatriphaladi Ghrita ,paschat karma of nasya and tarpana adviesed the patya and apatya to the patient followed by oral medication by mahatriphaladi Ghrita. treatment duration was 2 months, follow up was 4 months , which gives gives a better result.

Action of virechana

Vitiated Dosha is the basic factor in the manifestation and progress of the disease. Virechana is one of the samshodhana which aims at the elimination of vitiated Doshas from the body so that the disease could be treated most effectively.

Nimbamrita Eranda Taila acts as mrudu Sneha Virechana and also Pitta Shamaka and Vatanulomaka. keratoconus occurs because of vitiation of Vata dosha and chakshu is seat pf pitta dosha by keeping that in our mind we planned for nimbamrutaa eranda taila virechana.

Action of Nasya

‘Nasya hi sirasodwaram’ Nasa is the gateway of urdwyajatrugata Nasya with anutaila acts as a vatahara, shodhana, extra accumulated morbid doshas are expelled out from small blood
vessels and ultimately these morbid doshas are thrown out by the nasal discharge, tears and 
by salivation.

**Action of tarpana**
Tarpana exerts direct pressure on the cornea there may be changes in the refractive index of 
the cornea and lipophilic action of *ghritha* facilities transformation of a drug to the target 
organ finally reaches through the cell membrane which is made up of lipid corneal epithelium 
is permeable to lipid-soluble substance and also *Mahatriphaladi ghrita* has high levels of 
antioxidants, which reduce the oxidative stress and damages of the thinned out cornea. It 
helps in bringing down the corneal protrusion by *dosha shaman* and mechanical pressure.

**Action of ghritapana**
*Mahatriphaladi Ghrita* which acts as *bhrama, vatadoshashama, Chakshushya* in nature 
Thus the *shodhana, netrakriyakapa, sirovirechana*, and oral therapy were done with the 
prescribed medicine. Which acts as *Vata pittahara, Rasayana, and bhrumhana* medicine 
worked well in relieving the ocular discomfort.

**Pathya Apathya**
**Pathya Ahara:** Peya, Vilepi, Tikta and Laghu Ahara.
**Pathya Vihara:** Padabhyanga,
Apathya Ahara: Guru ahara, Sura (Alcohol), Jangalamamsa, Tambula, food and drinks, which are Amla, Lavana, Vidahi, Teeksha, Katu.

Apathya Vihara: Krodha, Shoka, Maithuna, Vata, Vinmutra, Diva swapna Nidra, Vegavarodha, Sukshmekshana (looking at minute objects), Snana, Atapa, Prajalpana (excessive talking), Chardana.

CONCLUSION
The aim of this study is to stop the progression of the disease and strengthen the collagen fibers. Keratoconus is a structural deformity of the cornea. Vata is responsible for any structural deformity in our body. Hence vatahara and bhrmhana treatment adopted for the management of keratoconus was found beneficial. Since it is a single study, it needs to be evaluated further and research should be conducted with more sample size, so further study is needed in this regard.

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