

ROLE OF CHAKSHUSHYA BASTI IN THE MANAGEMENT OF KERATOCONUS

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Article Received on 02/02/2022

Article Revised on 23/02/2022

Article Accepted on 15/03/2022

ABSTRACT

Keratoconus is characterized by progressive corneal protrusion and thinning, leading to irregular astigmatism and impairment in visual function. The etiology and pathogenesis of the condition are not fully understood. However, significant studies have been made in early clinical detection of the disease, as well as towards providing optimal optical and surgical correction for improving the quality of vision in affected patients. In Ayurveda there is no direct reference for keratoconus, based on symptoms it can be considered as *Vataja timira*. Considering the symptoms and *dosha dushya* involvement *Vatahara* line of treatment in the form of *Chakshushya Basti* are more beneficial in keratoconus.

KEYWORDS: *Vataja timira*, *Chakshushya Basti*, keratoconus.

INTRODUCTION

Keratoconus (conical cornea) is a non-inflammatory bilateral (85%) ectatic condition of cornea in its axial part. It usually starts at puberty and progresses slowly.^[1]

Etiopathogenesis: It is still not clear. Various theories proposed so far label it as developmental condition, degenerative condition, hereditary dystrophy and endocrine anomaly. Essential pathological changes are progressive thinning and ectasia which occur as a result of defective synthesis of mucopolysaccharide and collagen tissue.

Clinical features.^[2]

Symptoms: Patient presents with a defective vision due to progressive myopia and irregular astigmatism, which does not improve fully correction with glasses is the main symptom

Signs:

1. Window reflex is distorted.
2. Placido disc examination shows irregularity of the circles).
3. Slit-lamp examination may show thinning and ectasia of central cornea, opacity at the apex and Fleischer's ring at the base of cone, folds in Descemet's and Bowman's membranes. Very fine, vertical, deep stromal striae (Vogt lines) which disappear with external pressure on the globe are peculiar feature
4. On retinoscopy a yawning reflex (scissor reflex) and high oblique or irregular astigmatism is obtained.
5. On distant direct ophthalmoscopy an annular dark

shadow (due to total internal reflection of light) is seen which separates the central and peripheral areas of cornea (oil droplet reflex)

6. Munson's sign, i.e., localised bulging of lower lid when patient looks down is positive in late stages
7. Keratometry. Normal average keratometric values are 45 D. In keratoconus keratometric values are increased and based on it the severity of keratoconus is graded as: mild (< 48 D), moderate (48–54 D), and severe (>54 D).
8. Corneal topography, i.e., study of shape of corneal surface, is the most sensitive method for detecting early keratoconus.

Complications:

Acute hydrops due to rupture of Descemet's membrane. The condition is characterized by sudden development of corneal oedema associated with marked defective vision, pain, photophobia and lacrimation

Treatment^[3]

1. Spectacle correction may improve vision in early cases.
2. Contact lenses (rigid gas permeable) usually improve the vision in early cases. In early to moderate cases a specially designed scleral contact lens (Rose-K) may be useful.
3. Intacs, the intracorneal ring segments, are reported to be useful in early to moderate cases.
4. Corneal collagen crosslinking with riboflavin (CXL or C3R) and UV-A rays may slow the progression of disease.
5. Keratoplasty may be required in later stages. Deep

anterior lamellar keratoplasty (DALK) or penetrating keratoplasty (PK) may be performed.

Ayurvedic View

In Ayurveda, *vata* is responsible for formation of normal body parts. Here in this concept vitiation of *vata* can be understood in different view, if *Vayu* in *garbhavasta* gets vitiated due to *dauhrud avamana* leads to *vikrutakshi*^[4] and *Krishna mandala* is originated from *vayu Mahabhuta*, any defect in function of *vata* leads to *Krishna gata roga*.^[5] Based on signs and symptoms it holds good with *Vataja timira lakshana*. Same etiopathology get in contemporary science here also there is no exact cause for keratoconus. Here thinning of cornea is mainly due to the vitiation of *vata* which leads to progressive myopia and astigmatism. Based on the symptoms of keratoconus, this can be correlated to *vataja timira*.^[6] *Lakshana* ie,

<i>Vyaaviddhadrishti</i>	—
Straight line appears curved	
<i>Chala-Aavila-Arunabhadrishti</i>	—
Moving/blurred/reddish tinted vision	

In the management of *Netra rogas*, local therapeutics (*Netra kriyakalpa*) have vital role in the initial level of management of *Netra rogas*. After these local therapeutics pacification of *vata dosha* and for the complete *samprapthi vighatana* (interruption of pathogenesis) *Basti* is important. Acharya Vagbhata mentioned *basti* as one of the treatment procedure along with *Murdhabasti* (oil Retention treatment of head), *Tarpana* (medicated ghee retention in eye), *Alepana* (paste form of medicine application) in *Samanya drishtiroga chikitsa*, again he had mentioned *Niruha* and *Anuvasana basti* procedure specifically for *VatajaTimira chikitsa*.^[7]

Acharya Vagbhata has mentioned about *Chakshushya Basti*, which is type of *Siddhabasti* having all contents of *Madhutailikbasti* along with *Yashtimadhu Kalka* acts as *Rasayana*, *Pramehahar*, *Chakshushya* and has *Raktapittahara* effect.^[8]

CONTENTS OF CHAKSHUSHYA BASTI

(Ingredientsof *Madhutailika Basti* + *YastimadhuKalka*)

1. *Erandmoola Kwath*: 4 *prasrita* (380ml) *Madhu*: 2 *prasrita* (190 ml)
2. *Taila*: 2 *prasrita* (190 ml)
3. *Kalka* (*Shatpushpa*+*Yashtimadhu*): 1 *prasrita* (96gm)
4. *Saindhav*: 1 *karsha* (10gm)

Chakshushya Basti is a type of *Yapana Basti* it can be given at any time and is indicated in all seasons. The total duration of *Basti* can be planned as *Kala* or *Karama Basti*, so that desired results can be seen.

MATERIALS AND METHODS: References regarding keratoconus are collected from A.k Khurana ophthalmology textbook and ayurvedic references

collected from classical and various ayurveda published works.

DISCUSSION

While detailing the functions of *Vata* in *vatakalakalaakaleeya adyaya*, Acharya Charaka mentioned that *Vata dosha* is responsible for stimulation of all *Indriyas*. (*is sarvendriyanam mudyojakaand sarvendriyanam abhivoda*). In Charaka sidhithana, while explaining the *samyak yoga* of *vasthi*, Acharya emphasised the *Budhi indriya samprasadanatwa* and *Indriyaprasada* function of *vasti karma*. Which also point towards the importance of *Vasti* in maintaining the health of Special senses result in *Samshodhana* and *Samshamana* (pacifying) effects. Can influence generalised *Brimhana* (body nutritive) functions for *krisha* (under nourished), *Karshana* (Depletion) for *sthula* (overnourished), *Vajeekarana* (enhance virility) *Chakshu preenanam* (satisfies the eyes) and *valee palitha nashanam* (Destroys wrinkles and greying) *Vaya sthapanana* (Stabilise age), *Bala-Arogya* and *Ayusthapanana* (stabilise strength, health and life). This context substantiates the systemic effect of *vasthi* including *jathrudha* (upper parts of body). Vagbhata mentioned *Vasthi* as one of the treatment procedure along with *Murdhabasti* (oil Retention treatment of head), *Tarpana* (medicated ghee retention in eye), *Alepana* (paste form of medicine application) in *Samanya drishtiroga chikitsa*, again he had mentioned *Niruha* and *Anuvasana Vasthi* procedure specifically for *VatajaTimira chikitsa*. All these authenticated that *vasthi dravyas* can make therapeutic actions on *netra* even in the presence of existing barriers.

Mode of Action of Chakshushya Basti

Madhu having *Yogvahi Raktapittahara* and *sandhan* properties,^[9] is absorbed and assimilated by the body very quickly. *Saindhava* due to its *Sukshma Guna* reaches up to micro channels, due to its *Tikshna Guna* break down morbid *Mala* and *Dosha Sanghat* and its *Snigdha Guna* liquefies the *Doshas*.^[10] There is no drug better than *Taila* for the alleviation of *Vata*. Due to its *Vyavayi*, *Ushna*, *Guru* and *Snighda* properties *Taila* pacifies of *Vata* and increases permeability of cell membrane and helps in easy elimination of *Dosha* and *Mala*.^[11] *Kalka* and *Kwath Dravya* serve the function of *Utkleshan* or *Dosha Haran* or *Shaman*.^[12] According to Acharya Charak *Yashtimadhu* have *Rasayan*,^[13] best for *Chakshushya* and *Ropan* properties and has mentioned it in *Shonitstaphan Mahakashya*. Due to these properties *Yashtimadhu* helps to reduce the oxidative stress and damages of thinned out cornea *Shatpushpa* is having *Akshiroghrit* properties and increases the retention time of *Basti*.^[14] *Erandmool Kashaya* having *Vrishya* and *Vatahar* properties help in pacifying *Vata*.^[15] So when *Chakshushya Basti* is given to patients of keratoconus, it Pacifying the *Apana* and *VyanaVata* it leads to the normal function of all the *Dhatus* of the body and helps to reduce the oxidative stress and damages of thinned out cornea and thus help to reduce the refractive error.

CONCLUSION

Vata dosha disturbance at the cornea level is the most precise explanation that fits this disease. The cornea is the site for *Vata dosha*. A further irritation in *Vata dosha* leads to various anatomical and physiological changes in the cornea. It alters the cornea's shape, making it thinner in the center, giving it a conical shape. Ayurveda therapies like *Chakshushya Basti* are highly potent procedures that can help to reduce the oxidative stress and damages of thinned out cornea and thus help to reduce the refractive error as well as a check on the disease's further progression.

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