

Management of Myopic Astigmatism - A Case Report

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Abstract: Myopic astigmatism occurs when light rays focus at multiple points in front of the retina with accommodation at rest due to irregular curvature of the cornea or lens. In Myopia, light rays focus in front of retina, making distant objects appear blurry. Astigmatism causes light to scatter and leads to distorted vision. Treatment includes spectacles, contact lens; surgical treatments like LASIK, Clear lens extraction and Phakic intra ocular lens. If untreated, it may lead to further vision distortion, hence the need for timely and systematic management is necessary. This case report discusses a 9-year-old female child presenting with one year history of defective distant vision of both eyes. It was diagnosed as Myopic astigmatism after clinical refraction. Internal medicines were Triphala ghritha, Sapthamritha loha and Pathyashadangam kashayam. External therapies included Darvi Jala Netra Sekam, Nasyam, Anjanam, Sirodhara, Mukhalepa, Jalukavacharana (leech therapy) and Tarpana. The patient exhibited significant improvement in asthenopic symptoms and clarity of vision. Thus, the role of ayurvedic therapeutics in improving visual acuity is understood. This paves way for further research in validating the clinical findings.

Keywords: Myopic Astigmatism, Vatika Timira, Triphala ghritham, Tarpana

1. Introduction

Myopic astigmatism, a combination of near sightedness and Astigmatism can significantly impact clarity of vision and quality of life. There is strong evidence for causative association with long term intensive near visual acuity, particularly reading and using personal computers¹. Clinical types of Myopia are Simple myopia, Degenerative Myopia and Induced Myopia². Diagnosis is confirmed by performing clinical refraction³. The prevalence of Myopia in 5 to 15-year-old urban children increased from 4.44% in 1999 to 21.15% in 2019⁴. Due to its increasing prevalence related to environmental and lifestyle factors, there is a need for effective, holistic treatment approaches. Because of its influence on normal visual development, identifying astigmatism in the paediatric population is particularly important. High degrees of astigmatism are linked with Amblyopia development and some associations have also found between Astigmatism and Myopia⁵. Common symptoms are blurred vision at all distances, difficulty in night vision, eye strain and fatigue, frequent headache, squinting and double vision. If untreated, may result in Amblyopia. Available treatment options are spectacles, contact lenses and refractive surgery like LASIK, PRK, RK etc. RK removes tissue from the superficial and inner layers of the cornea and LASIK removes tissue only from the inner layer of the cornea. Methods for the correction of Astigmatism can have complications including corneal infections due to contact lenses and corneal scarring and persistent corneal haze from refractive surgery⁶. Flap creation is known to create aberrations that can change the visual acuity; these aberrations are even more when the flap is irregular^{7,8}. Hence, ayurveda can be explored to find an alternative to manage similar conditions. In ayurveda, the condition may be correlated to Vatika Timira affecting first patala (tunics of eyeball), anubandha dosha as kapha-pitta,

included under Drishtigata roga⁹(Diseases affecting the refractive media of eyeball). Treatment involved combination of internal ayurvedic formulations such as Triphala ghritham, Sapthamritha loha and Pathyashadangam kashayam¹⁰ for rejuvenating, anti-oxidant and neuroprotective effects and external therapies like Darvi Jala Netra Sekam, Nasyam, Anjanam, Sirodhara, Mukhalepa, Jalukavacharana (leech therapy) and Tarpana. If left untreated, the condition may lead to further progression in vision distortion. This may have an adverse impact on patient's daily lives and social interactions, thus affecting the quality of life. Hence timely and effective intervention is necessary. This study aims to depict ayurvedic management of Myopic astigmatism.

2. Methodology-Case Presentation

A fully conscious, normal oriented female child, aged 9 years, visited the outpatient department of Shalakyathantra Government Ayurveda College, Trivandrum with chief complaints of defective distant vision of both eyes for one year. The blurring was bilateral, gradual in onset, and progressive. It was also associated with occasional headache, watering of eyes and ocular fatigue of both eyes particularly after prolonged reading or screen use. She was taken for eye examination, where refractive error was diagnosed as myopic astigmatism, and spectacles were prescribed. She has been using spectacles regularly since then with partial improvement in symptoms. Uncorrected visual acuity on both eyes was 6/18.

Table 1: Visual Acuity

7/4/25	OD	OS
UCVA	6/18	6/18
BCVA	-2.75 x 10° 6/6	-3.00 x 180° 6/6

Blood parameters were found to be normal. Internal and external therapies were done for a period of 28 days.

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Table 2: Internal medicines

Internal Administration
1. <i>Pathyashadangam kashayam</i> 45 ml at 9am, 6 pm
2. <i>Triphala ghritham</i> 5g. at 6 am, 8pm
3. <i>Sapthamrita loham</i> 1 tab at bed time

Table 3: External therapies

Treatment	Duration	Medicine used
<i>Siro Abhyangam</i>	5 days	<i>Bala guduchyadi taila</i> at 3 pm
<i>Netra Sekam</i>	5 days	<i>Darvi Jala</i> twice daily
<i>Jalukavacharana</i> (Leech therapy)	3 days	At bilateral forehead & lateral canthus
<i>Abhyangam & ushnambu snanam</i>	1 day	<i>Bala thailam</i>
<i>Virechanam</i>	1 day	<i>Gandharva erandam</i> 10 ml. at 6 am with hot water
<i>Nasya</i>	7 days	<i>Dhanwantharam 21 A</i> 10 drops each nostrils
<i>Sirodhara Mukhalepa Anjanam</i>	7 days	<i>Bala taila & Thriphala kera Vara & Yashti churnam Pasupathanjanam</i>
<i>Tarpanam</i>	5 days	<i>Sathahwadi tarpana ghritham</i>
<i>Putapakam</i>	1 day	<i>Jeevaniya gana putapaka rasa</i>

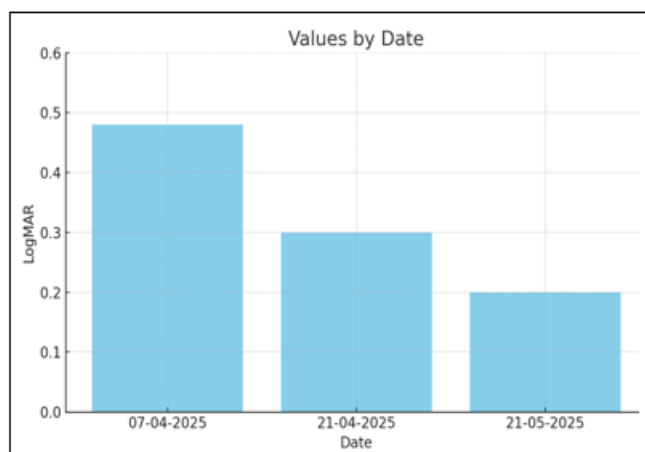
These medicines were given during discharge:

- 1) Triphala ghritham: 5 g. at bed time
- 2) Tab Sapthamritha Loham 1 tab with ghritha and 5 drops honey
- 3) Lodhra Arka drops: 2 drops each eye twice daily
- 4) Pasupathanjanam at 4 pm
- 5) Aragwadharishtam: 10 ml Twice daily After food
- 6) Dhanwantharam 21 A: 2 drops each nostril at 3 pm

3. Results

Visual Acuity	OD	OS
21/4/25	6/12 -2.25 x 10° 6/6	6/12 -2.25 x 180° 6/6
21/5/25	6/9	6/9

After 28 days of treatment, the visual acuity of the patient was improved. On follow up period, further improvement in vision was noted. The patient also experienced greater clarity in vision.

**Figure 1:** Visual Acuity in LogMar

4. Discussion

Myopic astigmatism is a refractive error combined with both Myopia and Astigmatism share same pathophysiological basis as that of *Vatika Timira* by causing gradual painless defective vision. *Timira* leads to progression in vision distortion if not arrested. Here, the main *Dosha* involved is *vata*, which is responsible for structural changes in eyeball. *Anubandha dosha* is *kapha*, resulting in increased refractive index of lens. The deranged *Kapha* failed in maintaining the integrity of ocular structures. *Pitta* vitiation resulted in eye strain related problems. Hence, the management strategies included restoring the normal *Tridosha* balance. The internal administration of *Pathyashadangam kashayam* which contains *Kashaya* and *tiktha rasa* dominant herbs are *kapha-pitta hara* and *chakshushya* (property of nourishing and supporting ocular tissues). This helps to reduce the strain of ocular muscles. It also has *agni deepana* properties, improving metabolism, vital for absorption of nutrients. Use of *Sapthamritha loham* tab helped in improvement of vision due to its *rasayana*, *chakshushya* and *tridoshaghna* properties. Intake of *Triphala ghritham* is *chakshushya* as it enhances tear film stability, provide antioxidant protection to the retina. Its *Vata Pitta samaka* properties helps in relieving ocular fatigue. *Triphala* has demonstrated antioxidant and neuroprotective effects in ocular tissues. Ghee-based formulations improve bioavailability of herbal constituents and deliver them to deep tissues, including the optic nerve and retina. *Netra Sekam* with *Darvi jala* helped in cleansing and detoxification, open *srotas*, promoting better circulation and reduce eye strain. *Siro abhyangam* with *bala guduchyadi thaila* is cooling, calming, supports the nervous system and overall ocular health. *Bala* strengthens nerves and ocular muscles, *guduchi* is *rasayana* (providing nourishment), helps detoxify the *srothas*. It cools down *Pitta*, pacifies *Vata*, and stabilizes *prana vayu*, which is critical in eye function. It helps to stabilize nerve function, improve accommodation reflex. *Jalukavacharana* (leech therapy) helps in *raktha sodhana* and thus restore clarity of vision by improving circulation. *Nasya* with *Dhanwantharam 21 Avarthi* helps to balance *prana vata* vital for proper coordination between nervous system, ocular muscles, and lens focusing mechanism. *Sirodhara* with *Triphaladi keram* and *Bala thaila* calms *Vata-pitta* responsible for ocular degeneration, strain, and neural fatigue. *Pasupathanjanam* has the properties of cleansing, strengthening of anterior segment of eye and promote perception of light rays at normal level. *Mukhalepa* with *vara* and *yashti churna* enhance facial and periorbital skin health, improves circulation, and is *Pitta-Vata hara*. It supports healthy oxygen and nutrient flow to ocular region, soothes tension and strain around eyes. *Tarpana* with *Sathahwadi tarpana ghritham* provide nutrition to ocular structures, soothes and nourish glands and tissues of eyeball through the *chakshushya Dravya*. Therefore, lipid secreting glands of lid restores its normal secretion and prevent evaporation of underlying aqueous layer of tear film, which adds in better refraction. Hence, the normal functions like proper accommodation, visual perception is restored.

5. Conclusion

Through tracing the pathophysiology of Myopic astigmatism along with *Vatika timira*, considering *anubandha kapha-pitta*

doshas, therapy for normalizing doshik imbalance was done which helped to improve vision to a better extend. This highlights the importance of ayurvedic treatment modalities helping to preserve and improve vision to a certain level. Moreover, this holistic approach acts through individualized care may effectively address cases of refractive errors if further research is carried out in validating these findings. This open novel ways for exploring ayurvedic treatments, where conventional therapies have limitations.

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