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“A review on conceptual insight of Myopia and its management in Ayurveda”

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R.T. Ayurved Mahavidyalaya, Akola**Abstract:**

The prevalence of myopia, which ranges from 6.9 percent to 19.7 percent, is currently considered a serious public health concern for eyes with significant psychological, familial, educational, and economic consequences. The elements that have an impact on the overall growth process, including as stress, debilitating illnesses, endocrine abnormalities, and dietary deficiencies, will also have an impact on the progression of myopia. Timira and Myopia share a lot in common, as does the original Patala. Myopia is a widespread visual condition in which nearby items are clear to you but distant objects are hazy. If adequate care is not performed, it interferes with a person's daily activities. High myopia is frequently linked to potentially blinding disorders like retinal detachment or macular degeneration, but simple myopia may be treated with glasses or contact lenses. Some Ayurvedic writers claim that Simple Myopia and "Drushtigat Vyadhi," as described in Ayurvedic Samhitas, are connected. In the ayurvedic classics, the idea of Chakshushya and several therapeutic techniques are described. These are supposed to increase or improve visual acuity and eye health.

Key-words - Myopia, Nasya, Tarpana, Timir, Refractive error, Drushtigat Vyadhi**Corresponding Author:****Dr Ravi Shyamsundar Ailani,**Assistant Professor and HOD, Deptt of Shalakyatantra,
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INTRODUCTION

In the Sushruta Samhita, ophthalmology is covered in great depth. "The eyes (organ of sight) are the most crucial sense organ among the five others, especially for humans," says Acharya Vagbhata, highlighting the importance of vision.¹ Because losing one's eyesight prevents them from doing daily duties, eye disease is significantly more important than any other physical issue, thus every person should make continuing, regular efforts to safeguard their vision throughout their lives. Acharyas do a fantastic job of explaining the classification of eye diseases as well as the surgical procedures needed to treat them. There are 76 different eye diseases in all. These 76 ailments were grouped according to a number of factors, as per Dosha (Vataja, Pittaja, Kaphaja, Raktaja, and Sannipataja); prognosis (Sadhya, Yasya, and Asadya); Sthana (Sandhigata, Vartmagata, Shuklagata, Krishnagata, Sarvagata and Drishtigata); procedure (Chhedya, Lekhya, Bhedya, Vedhya), etc.²

The broad term "Drushtigarogas" is used to study disorders that affect vision. Acharya Sushruta and Acharya Vagbhata both stated twelve and twenty-seven

Drushtigarogas, respectively. One of them is Timira, which happened as a result of Abhyntar Patalas' illness. Timira's clinical characteristics might be thought of as refraction errors. Out of the six Netra Patalas that Sushruta mentions, the last four Patalas are connected to the eyeball's antero-posterior region, where Timira Roga is supposedly formed.³ Due to its progressive, irreversible nature and ability to induce full or partial blindness, it is also known as "Paramdarunvyadhi." In terms of symptoms, implicated anatomical structures, and illness pathophysiology, myopia is quite similar to Timira involving the first and second Patala. Although several medications and treatments, including Nasya, Anjana, Akshi Tarpana, etc., have been listed in Ayurvedic scriptures to treat Timira, Akshi-Tarpana is the most effective due to its strong literary and empirical support. However, no one has ever done the research using Shodhana Nasya (as Poorva-Karma) prior to Akshi-Tarpana as suggested in all the Ayurvedic classics.⁴ Previously, several studies on the effectiveness of Akshi-Tarpana in Timira (myopia) have been carried out, with positive findings. Chakshushya, Rasayana, and Tridosha may be beneficial in treating Timira (myopia). Myopia is a

significant eye-related public health issue with significant social, individual, educational, and economic consequences. Parallel light rays are brought into focus in front of the retina of a resting eye in a condition known as myopia. The spherical power in diopters of the diverging lens required to focus light onto the retina, also known as the spherical equivalent or refraction in the least myopic meridian, is used to assess myopia. Myopia has several clinical correlations, including squinting, eye rubbing, and distorted distant vision. It is very frequent in our culture and more so in Asian nations.⁵ In India, the incidence of myopia ranges from seven to twenty seven percent, while the prevalence of hyperopia is 22.9%, which is on the rise. A total of 1.3 billion people are thought to be affected by some form of vision impairment worldwide. The WHO estimates that uncorrected refractive error is to blame for 43% of visual impairment. Myopia was chosen as a priority because it is a significant global public health issue. By 2028, the WHO's Vision 2020 programme hopes to cure and prevent eye illnesses as well as end blindness. Furthermore, several research conducted in a number of nations, including Singapore,

Australia, and the United States, show that its frequency may be rising over time.^{6,7,8}

Concept of Timir

Its origins may be found in "Timi Kledane Aardri Bhavahalti Yavatha." Its derivation is "Tim+ Unadi" with the suffix "Kirach" (Shabdikalpadrum), which denotes a rise in the amount of water in the eye. According to Amarkosha, the meaning of Timir is gloom. Timir's clinical characteristics might be thought of as refraction errors. The final four Netra Patalas, out of the six mentioned by Sushruta, are connected to the eyeball's antero-posterior region, where Timir Roga is supposedly formed. This happens in the first two layers of the eyeball, according to Vagbhata. There is blurry vision of all things when vitiated Doshas enter the eye through blood vessels and settle in the first Patala. When Doshas enter the second Patala, vision gets more blurred.⁹ The condition is known as Timir when the vitiated Doshas are located in the first and second Patalas, while it is known as Kacha, Linganasha, and kacha when it affects the third and fourth Patalas. There is total darkness if the doshas are in the fourth patala. The most significant eye condition, myopia, can be linked to a portion of the

clinical characteristics of Timir (First and Second Patala). The patient complains of trouble seeing clearly when the vitiated Doshas invade the first Patala. This is a frequent problem associated with astigmatism, myopia, and hypermetropia. The Timir of the first Patala may therefore be easily correlated with myopia.¹⁰

Myopia results from an excessively large eyeball, which concentrates light rays at a point in front of the retina. The term "myopia" or "shortsightedness" is frequently used.¹¹

It primarily comes in two types: 1. Natural or simple myopia 2. Pathological, deteriorating, or progressive myopia.

Causative factors

Aharaj - Abundant Katu Rasa and Amla

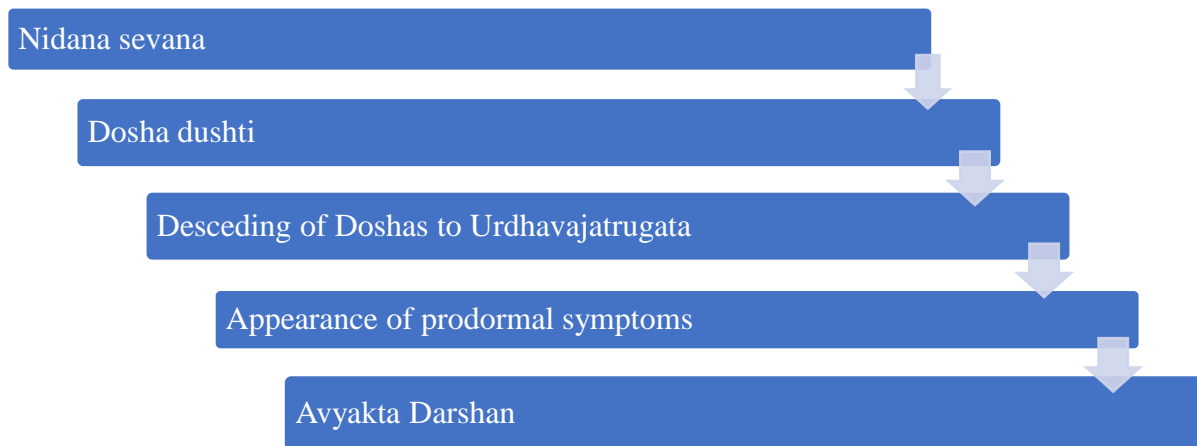
Viharaj - Cold water baths, smoking cigarettes while the body is heated, prolonged periods of lacrimation suppression while observing moving objects, work in furnaces and welding, Swapnaviparyaya, Atimaituna, Kulatthamasha sevana, etc. Mansika - Chinta, Shoka.

Some specific causes – Grahani Roga, Nasya Karma, Pinasa, Raktasrava, Constipation,

Shiro Abhitapa, Marmaghata, etc.¹² Others - Genetic factors, biological variations in development of eye i.e. change in optical power of cornea and lens, increase in axial length of eyeball, etc.

Samprapti

The increase of Doshas at each site marks the start of Timir's pathological occurrences. The primary source of Timir is the Vimarga Gamana of these enhanced Doshas through Siras towards Drishti and localisation in Patalas. Dasha localisation in the patalas further inhibits the patalas' functioning abilities and causes vision blurring or avyakta darshana. It further restricts the availability of nutrients by blocking the pathways that deliver it. Due to the involvement of Pishitashrita and Medoashrita Patalas, the further evolution results in Vihwala Darshana. The condition progresses to the point of complete blindness known as Linganasha. Thus, in Chakshurendriya, the Ashraya of the Malas in Indriya causes both Upaghata (destruction) and Upatapa (illness).^{13,14}



Samprapti ghatakas¹⁵

Dosha- Tridosha

Pitta- Alochaka

Kapha- Tarpaka

Vata- Prana and Udana

Dusya- Rasa, Rakta. Mamsa

Adhithana- First Patala

Agni- Jatharagni

Srotas- Rasavaha and Majjavaha

Srotodushti- Sanga and Vimarggamana

Clinical Features of Timir

- **Vataja Timir** - Objects appear as if they were moving, hazy, reddish in colour and tortuous in shape. Pittaja Timir- Visualization of false flashes of the sun, glow-worm, rainbow and the lightening. Bluish and blackish shades appear as variegated like the feathers of a peacock. ^{16,17}
- **Kaphaja Timir** - All objects are seen as glossy and white like the clouds.

- **Raktaja Timir** - Objects appear to be in various colours such as dark greenish, greyish, or blackish and smoky all around.

Management of Timir:

Timir is a Drishti Mandala illness that manifests initially as minor visual issues. The pathology of Timir in different Patala refers to visual abnormalities brought on by various biological and physiological reasons. Avoiding aetiological reasons and, more specifically, combating increased Vata and other Doshas, are the cornerstones of Timir's fundamental therapeutic strategy. The disease's stage and the Doshas' relative dominance influence the recommended course of treatment for Timir. The body should be washed with Langhana and Virechana as soon as possible. ¹⁸

Prophylactic measures

Samanya chikitsa – According to Acharya Vagbhata, if Timir is not treated in its early

stages, it might lead to total blindness; for this reason, it is imperative to treat it as soon as possible. He recommended Tarpana, Snehana, Raktmokshana, Virechan, Nasya, and other therapies. In severe situations of eye disease, Langhana, Virechana, Nasya, and Basti should be used to do physical cleaning. Then, depending on the dominance of Doshas, Abhishndokatakriyakalpa can be provided.¹⁹

Preventive measures – Ghrita, Triphala, Shatawari, Patola, Mudga, Amalaki, and Yava (barley) should all be routinely consumed by a person. The preventative procedures to avoid Timir include the preparation of triphala decoction and payasa made from shatawari, amalaki, or barley meal boiled with enough ghrita. Jivanti, Sunishannaka, Tanduliya, good quantities of Vastuka, Karavellaka, brinjal, tarkari, karira fruits, Shigru, and artagala are all vegetables that may be cooked with Ghrita to enhance vision.²⁰

Curative measures

Local- By the name of "Kriyakalpa," Acharya Sushruta provided a very lovely and distinctive description of the local use of medications in a number of eye ailments. Samshodhana karma, which contains

Virechana, Raktamokshana, and Nasya, has been mentioned by Sushruta and Vagbhata. Putapaka, Anjana, Dhooma, Tarpana, Shirovasti, Lepa, and Seka are all part of Kriyakalpa. Anjana has received a lot of attention in the management of Drishtigata Rogas because it expels the localised Doshas from the eye. In order to rid the Netra Patalas of the localised Doshas, Lekhana Ashchyotana is more effective.^{19,20}

Systemic – Siramokshana, which relieves Rakta Dushti, is the first step in treating Timir systemically. As the eye is the sight of Pitta predominance for which Eranda Taila (Vataja Timir), Triphala Ghrita (Pittaja Timir), and Trivrita Ghrita (Kaphaja Timir) are suggested, Virechana is considered to be perfect for Anulomana of Doshas specifically vitiated Pitta. In Timir, old ghee preserved in an iron container is advantageous in every manner. Numerous Nasya Prayogas are also reported for Timir because, in the case of Urdhvajatrugata Rogas, the nose serves as a portal for drug administration. According to the participation of Doshas, triphala is stated to be the drug of choice in cases of Timir with different Anupanas.

Vishesh Chikitsa of Timir

Snehapanarthdravya

- In Vataj Timir (Dashmuladi and triphalakalkasiddhghrita),
- Pittaj Timir (JivntyadiGana and TriphalasadhhGhrita);
- Kaphaj Timir (Vasadi, Triphala, Patol, Guduchi Kwathsidhh Ghrita).

Virechnadi Yoga

- In Vataj Timir (use of Erand oil with lukewarm water or milk for Virechana),
- Raktaj and Pittaj Timir (Virechana with Triphla Ghrita),
- Kaphaja Timir (Virechana with Nishottarsidhha Ghrita).

Nasyadi Yoga

- Vataj Timir (Jivantyadi tail, Mudgparni, Shatavari),
- Pittaj Timir (Kaakolyadigana Aushadhi),
- Kaphaj Timir (Jalaudhbhavadighrita Nasya),
- Tarpandi Yoga - TriphalaGhrit, MahatriphladiGhrit, JeevantyadiGhrit, PatoladiGhrit, etc.

DISCUSSION:

Timir was regarded by Acharya Sushruta as "ParamdarunVyadhi," which means that if it is not treated, it will eventually result in blindness. Among refractive defects,

myopia is one type. When the first Patala is implicated, avyakta, a mild kind of myopia, will be produced, obscuring one's vision for a considerable distance. Myopia's primary symptoms in distance vision are alarming. When the kupita doshas are deposited in the upper region of Drishti, the problem with distant vision described in the Sushruta Samhita occurs. Extreme myopia can lead to total blindness, which is connected to the Lingansh. Blurred vision, haziness of vision, seeing false pictures like gnats, hairs, webs, circles, flags, mirages, and ear rings, inability to find the needle's eye, etc. are some clinical characteristics of Timir that have been noted by many researchers. A variety of therapy techniques were outlined by Acharya in Ayurveda, including Pathyakar Aahar-Vihar, Netrakarma, Kriyakalpa, Panchkarma, Chakshuya medicines, and Rasayana yoga, and many others. The primary course of treatment for Timir is Snehpanootar Virechana, followed by Raktmokshna.²¹ By virtue of its Rasa, Guna, Virya, and Vipak, Triphala looks to be Vatashamak, followed by Pittashamak Kaphashamaka. As a result, Triphala's Tridoshamaka impact aids in dissolving the pathology of the disease Timir.²²

CONCLUSION:

Clinical signs of vision abnormalities are exclusively observed in 'Drishtigat Rogas' in Ayurveda. Therefore, the Timira-Kacha-Linganasha complex may be used as a general term to describe all occurrences of visual abnormalities. The most significant refractive defect, Myopia, can be linked to a portion of the clinical features of Timira, particularly the first and second patala. The patient complains of having trouble seeing items clearly when the vitiated doshas invade the first patala. This is the most frequent issue that people with refractive error have. Patients who have vitiated doshas in the second patala report having trouble seeing clearly and seeing bees, flies, hairs, etc. Additionally, in extreme myopia, when degenerative changes take place, same symptoms are evident.

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