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A REVIEW STUDY OF TIMIRA IN AYURVEDA WITH SPECIAL REFERENCE TO MYOPIA

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Abstract: *Timira is a disease, which is included under Drishtigata vikaras by all Acharyas. According to Ayurveda the disease Timira is having involvement of first and second Patala . First Patala is the Tejojalashrita patala and second Patala is the Mamsashrita patala . According to modern the outer two layers of eyeball are fibrous layer and vascular layer. Fibrous layer consists of cornea and sclera. Myopia is a disease having the involvement of both the fibrous and vascular layer (first and second coat) The commonest causes of simple myopia are increase in antero-posterior length of eyeball (stretching of sclera) and change in the corneal curvature. Along with the stretching of sclera there is also stretching of vascular layer and retina. The anatomical considerations of the Patalas and symptoms of the vitiated doshas situated in these Patalas reveal that the word 'Timira' which is described as an ocular pathology in Ayurveda, is nothing but errors of refraction specially Myopia, a form of refractive error where the distant vision is compromised, embraces a large section of present day population. So a detailed conceptual study has been done to explore the aetio-pathogenesis and symptomatology of the disease Timira in Ayurveda, in accordance with modern parameters.*

Keywords: *Timira, Patala, Kacha, Linganasha, Doshas, Dhristi.*

Introduction: *Timira* is an eye disease, which starts from *Avyakta darshana* (blurring of vision) and ends in complete loss of vision i.e. *Linganasha*. The word *Timira* originates from (1) 'Tim' + Unadi suffix 'Kirach' which means: The increase of watery substance in the eye, which is also followed by *Siddhanta Kaumudi* as Loss of light perception (2) In *Amarakosha*, the meaning of *Timira* is given as darkness. In *Halayudha Kosha*, *Timira* means darkness whose enemy is sun. Literally, it means darkness. *Timira roga* varies from a symptom to an established disease.

Etiology of Timira: *Acharya Charaka* broadly classified the causes as overuse, misuse and disuse of the senses. In context of eye, excessive gazing at the over brilliant object or doing more work related with constant use of eye (e.g. computer work) is excessive use, avoiding looking altogether is disuse (resulting in amblyopia) and seeing too near, too distant, fierce, frightful, wonderful, disliked, disgusting, deformed and terrifying objects is perverted use of objects^[1].

Acharya Sushruta and others have described the following causes for eye diseases- Diving into water immediately after exposure to heat, Excessive looking at distant objects, Sleep during day and awakening at night, Excessive weeping, anger/grief, Injury to head, Excessive use of sour gruel & vinegar, *kulatha* and *masha* pulses, Suppression of natural urges, Excessive perspiration, Smoking or working in smoke^[2].

Specific Causes of Timira

Pratishyaya (Rhinitis): *Aandhya* (blindness) and several eye diseases including *Timira* results as a complication of *Pratishyaya*^[3].

Excessive Blood Letting: Excessive blood loss results in blurring of vision and errors of refraction^[4].

Injury to Vital Parts: Trauma to *Avarta* and *Apanga Marma* may lead to loss of vision either partial or complete^[5].

Improper Use of Nasya: The unctuous nasal medication in fever, depression and heat stroke causes dimness of vision (*Timira*). Suppressing tears: Suppression of tears has been considered as the cause of *Timira*^[6].

Guggulatiyoga: Excessive intake of *Guggulu* leads to *Timira* [7].

Grahani Roga: *Timira* has been considered as one of the symptoms of *Grahani Roga* complications [8].

Arsha Roga: *Timira* has also been considered as one of the symptom of *Arsha Roga* [9,10].

Pathogenesis of Timira: The pathological events of *Timira* begin with the increment of *doshas* at their respective sites. The *Vimarga gamana* of these increased *doshas* towards *drishti* through *sira* is said to be the *samprapti* of *Timira*. According to *Dalhana* the word '*sira*' denotes here '*Rupavaha Sira*' and *Drishiti* indicates inner part of the *drishti*. The lodgement of *doshas* in *patalas* further prevents the functional capacity of *patalas* and lead to *Avyakta darshana* or blurred vision. It further inhibits the nutritional supply by obstructing the channels responsible for it. The further involvement of second and third *patalas* leads to further deterioration of *drishti*; whereas in 4th *patala* affliction terminates into *Linganasha* or complete loss of vision. The *ashrayas* of *malas* in *indriyas* thus produces both *Upghata* (destruction) and *Upatapa* (*Vikriti* or disease) in *chakshurindriya*. *Acharya Charaka* states that when humors get provoked in the seats of the sense organs, they cause either the impairment or the irritation of the senses concerned [11].

Myopia and its Pathogenesis: Myopia, also called near- or short-sightedness, is a refractive defect of the eye in which the image focus occurs in front of the retina when accommodation is relaxed. The global prevalence of refractive errors has been estimated from 800 million to 2.3 billion [12]. The incidence of myopia within sampled population often varies with age, country, sex, race, ethnicity, occupation, environment, and other factors.

There are currently two basic mechanisms believed to cause myopia: form deprivation (also known as pattern deprivation) and optical defocus [13]. Form deprivation occurs when the image quality on the retina is reduced; optical defocus occurs when light focuses in front of or behind the retina. Numerous experiments with animals have shown that myopia can be artificially generated by inducing either of these conditions.

Timira can be correlated with myopia: *Avyakta Darshana* or indistinct distant vision it is a symptom produced due to affliction of first *Patala*. It occurs in myopia of low degree. *Vihwala Darshana* symptom is produced due to

affliction of second *Patala* occurs due to progressive myopia, which results into vitreous degeneration, retinal degeneration and ultimately retinal detachment in advanced stage. The confused visual perception and appearance of bees, flies, hairs etc. are presents when the vitiated *doshas* are situated in the second *Patala*. These symptoms are present in high myopia also, where degenerative changes occur.

The end result of myopia particularly, high myopia is total blindness & *Timira* also leads to *Linganasha* i.e. loss of vision ultimately. Genetic factors can work in various biochemical ways to cause myopia. Similarly, in *Ayurveda*, *Krishna Mandala* (cornea) is said to be *Matruja Bhava* and *Shweta Mandala* (sclera) as *Pitruja Bhava*. Thus, inheritability of these structures has been described, and it can be assumed that that the diseases related to these structures are also inherited.

One of the study shows that myopia may be caused by diets too rich in carbohydrates, which can lead to chronic hyperinsulinemia. This theory is similar to Ayurvedic concept of *Mithya Ahara* leading to *Tridosha Prakopa* and *Ama* formation, and further going through various stages, leading to disease *Timira*. Nutritional deficiency is also reported as etiological factor for myopia. First and second *Patala* are the *Tejo-Jala* and *Mamsa Aashrita Patala*, which means that deficiency or *Dushti* of these nutritive *Dhatus* will lead to nutritional deficiency, leading to alteration in these structures (*Patalas*), which in modern terms can be understood as alteration of refractive indices, thereby causing refractive errors (myopia in present context). According to this theory, myopia is a result of excessive use of eyes for near point tasks. Similar causative factor (*Atiyoga* or *Sookshmanireekshnat*) have been postulated in Ayurvedic texts also for the disease *Timira* – myopia.

Conclusion: *Timira* is a disease when the vitiated *doshas* are situated in the first and second *Patala*. The disease progresses to *Kacha* and *Linganasha* when the *doshas* involve third and fourth *Patala* respectively. The clinical feature of vitiated *doshas* in first and second *Patalas*, which are analyzed here, simulates very much with refractive errors including Myopia. *Timira* is easily curable when the *doshas* are limited to first and second *Patala*, it gets the stage of chronicity and becomes *yapya* by the *dushti* of third *Patala*. *Timira* attains the incurability when the *doshas* reach fourth *Patala*

wherein surgical intervention is advocated in case of *Kaphaja Linganasha*.

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