

ASTIGMATISM: AN INSIGHT THROUGH AYURVEDA

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ABSTRACT

Astigmatism is a refractive error in which the refraction varies around various meridians, causing vision blur. The current living style, which includes excessive use of computers, television, and fast food, is contributing to an increase in the incidence of astigmatism and other refractive errors. Spectacles, contact lenses, and surgical procedures such as LASIK, Keratectomy, and others are used to correct astigmatism, but these therapies cannot cure or stop the condition from progressing. Spectacles can cause cosmetic problems, contact lenses can cause corneal abrasions, and operations like LASIK can cause keratitis, corneal perforation and are expensive too. Timira is named by Acharya Sushruta as one of the 12 Drishtigata Rogas. The vitiation of Netra Patalas causes Timira, Kacha, and Linganasha, which are progressive stages of the same disease. Timira is the outcome of vitiated Doshas entering the first and second Patalas. Those who consume old ghee, Triphala, Satavari, Patola, Mudga, Amalaki, and barley on a daily basis should not be concerned about serious timira. Tarpana, putapaka, seka, ascyotana, and anjana are examples of local interventions. Oleation, blood-letting purgation, nasal medication, collyrium application, Murdha Basti, Bastikriya, Tarpana, Lepa or paste and Seka application, administered many times suitable to the Doshas is the general treatment of Timira.

Keywords: Astigmatism, Timira, Drihtigata Rogas, Netra Patalagata Roga.

INTRODUCTION

Astigmatism is a refractive error in which the refraction varies around various meridians, causing vision blur. As a result, light rays entering the eye do not converge to a point focus, but instead form focal lines. The current life style, which includes excessive use of computers, television, and fast food, is contributing to an increase in the incidence of astigmatism and other refractive errors. Spectacles, contact lenses, and surgical procedures such as LASIK, Keratectomy, and others are used to cure astigmatism, but these therapies cannot cure or stop the condition from progressing. Spectacles can cause cosmetic problems, contact lenses can cause corneal abrasions, and operations like LASIK can cause keratitis, corneal perforation and are expensive too. According to American ophthalmologist William H Bates, refractive errors such as astigmatism are caused by excessive eye use, which causes eye strain, and he has advocated for a variety of eye exercises to help cure them. Usual and abnormal astigmatism are the two types of astigmatism.

Regular Astigmatism - When the refractive power varies uniformly from one meridian to the next, it is said to be regular astigmatism (i.e., there are two principles meridian). **Corneal astigmatism** is caused by irregularities in the cornea's curvature. Astigmatism is most often caused by this condition. **Lenticular astigmatism** is a relatively uncommon condition. It may be - Curvatural, as seen in lenticonus, due to irregularities in lens curvature. As seen in subluxation, positional owing to lens tilting or oblique positioning. Variable refractive index of the lens in different meridian may cause index astigmatism. **Retinal astigmatism** may occur as a result of the macula's oblique positioning.

Symptoms of regular astigmatism include - Asthenopic signs include a dull ache in the eye, fatigue, early tiredness of the eyes, nausea, and sometimes drowsiness, depending on the form and degree of astigmatism; and Asthenopic symptoms include a dull ache in the eye, headache, early tiredness of the eyes, and occasionally nausea and even drowsiness, depending on the type and degree of astigmatism.

Signs - Retinoscopy or auto refractometry show a difference between strength between two meridians. Ophthalmoscopy can reveal an oval or tilted optic disc in patients with a high degree of astigmatism. Head tilt: Astigmatic patients may (rarely) experience torticollis in an effort to get their axis closer to the horizontal or vertical meridians. Half-closure of the lid, similar to myopes, astigmatic patients may half-close their eyes to gain greater stenopacic vision clarity.

The optical treatment of normal astigmatism comprises prescribing a suitable cylindrical lens based on the results of a precise refraction. For distance and close vision, contact lenses and spectacles with absolute

cylindrical power adjustment and the right axis should be used. Rigid contact lenses can correct astigmatism up to 2-3 D, whereas soft contact lenses can only correct minor astigmatism. Toric contact lenses are needed for people with a higher degree of astigmatism. Ballasting or truncation is needed to preserve the proper axis of toric lenses.

Irregular Astigmatism - It's marked by a meridian-to-meridian variation in refractive power. There are several meridian lines that cannot be analysed geometrically. Patients of deep corneal scars or keratoconus have curvatural abnormal astigmatism & Index. Etiological causes include abnormal astigmatism caused by varying refractive index in various areas of the crystalline lens, and may arise infrequently during cataract maturation. Defective vision, object distortion, and polyopia are all symptoms. Treatment involves In patients with superficial corneal scars that cause abnormal astigmatism, contact lenses that cover the anterior surface of the cornea for refraction, as well as phototherapeutic keratectomy (PTK) done with an excimer laser, can be beneficial. Penetrating keratoplasty is a surgical procedure used to treat severe corneal scarring.

CONCEPT OF ASTIGMATISM IN AYURVEDA

Timira is a disease identified in detail by Acharya Sushruta. It is one of the twelve Drishtigata Rogas that he has classified it under. Timira, Kacha, and Linganasha, he claims, are all phases of the same disease caused by the vitiation of Netra Patalas. Timira is the product of vitiated Doshas entering the first and second Patalas. Timira is mentioned by Sushruta in Uttarasthana chapters 7 & 17. Timira is mentioned among the Vataja Nanatmaja Vikaras (Cha.S.Su.20/11) by Acharya Charaka. In Astanga Sangraha (A.S.Ut.chapter 15-17) and Astanga Hridaya (A.H.Ut.chapter 12-14), Acharya Vagbhatta describes the disease Timira under 27 Drishtigata Rogas. When the vitiated Doshas hit the first and second Patalas, it causes Timira. Timira, Kacha, and Linganasha, he claims, are three distinct diseases. Madhava Nidana (Uttar khanda chapter 59), Bhavaprakash (madhyama khanda chapter 63), Yogaratnakara (Netrarogadhikara), Sharangadhara Samhita (Purva khanda chapter 7 and Uttar khanda chapter 13), Chakradatta (chapter 59), and others have all detailed descriptions of Timira.

Nirukti - Timira is formed by combining the root 'Tim' with the 'Unadi suffix' kirach. The word 'Tim' refers to an uptick in eye dampness. Timira, according to Amarakosha, means "darkness." (Patalibhogavarga. 87/3)

Nidan - Acharya Charaka has listed the general causes of diseases, which can be applied to Netra Rogas like Atiyoga, Heenayoga, and Mitya yoga of Indriya, Karma, and Kaala. (Cha.S.Su.11/37) Eye disorders, according to Harita, are caused by the consumption of Ushna, Kshara, and Katu Ahara, as well as gazing at fine things. Eye disorders are caused by Achakshushyas and practices that damage the skin, according to Vagbhatta. (A.H.Ut.8/1) Some etiological factors for eye disorders have been established by Sushruta and later scholars. Since the aetiology of Timira is not specified, the general aetiology for Netra Rogas should be considered.

Causative factors	S.S.	M.N.	B.P.	Y.R.	A.S.	A.H.
Sudden immersion in water being exposed to sun	+	+	+	+	+	-
Staring at remote points for an extended period of time	+	+	+	+	+	-
Abnormal sleeping habits	+	+	+	+	+	-
Continuous weeping	+	+	+	+	+	-
Anger, grief, suffering	+	+	+	+	+	-
Head injury	+	+	+	+	+	+
Excessive sexual intercourse	+	+	+	+	+	-
Excessive use of vinegar and sour gruels	+	-	+	-	-	-
Pulses - Kulathi and Masha	+	-	+	-	-	-
Suppression of physiological nature calls	+	+	+	+	+	-
Excessive perspiration	+	+	+	+	+	-
Smoking	+	+	+	+	+	-
Suppressing of excessive vomiting	+	+	+	+	+	-
Suppression of tears	+	+	+	+	+	-
Looking at very minute objects	+	+	+	+	+	+
Alcohol	-	+	-	+	+	-
Intake of fluids at night	-	+	-	+	+	-
Appearance of unusual features during season	-	+	+	+	+	-
Traveling at high speed	-	-	+	-	-	-
Excessive intake of Ushna, Kshara and Katu Ahara	-	-	-	-	-	+

Avaak and Uchrita Shira Shayana, i.e. sleeping with the head at a too low or too high level, ritu viparyaya, are two causes of eye diseases listed by Dalhana. (Su.S.Ut.1/26-27)

Timira mentioned as a complication: In the Charaka Samhita, the word Timira is described as one of the complications of Vatajagrahani Roga. S.Chi.15/67) (Cha.S.Chi.15/67) (Cha.S.Chi.15/6 Timira is one of the side effects of too much rakta srava. (Su.S.Su.14/30 Su.S.Su.14/30 Su.S.Su.14/30 Su Timira is a Peenasa late complication. (Su.S.Ut. 24/116-117) Su.S.Ut. 24/116-117) Nasya karma administered during a fever, grief, or after consuming alcohol is an iatrogenic cause of Timira. (Cha.S.Si.9/115)

Purvaroopaa

Due to the lack of a specific Purvaroopaa for Timira, the general Purvaroopaa of Netra Rogas described by Sushruta can be used. The prodromal symptoms of eye diseases include dirtiness, congestion, lacrimation, scratching, stickiness, heaviness, burning feeling, pricking discomfort, redness, and so on. There may be a sensation as if the cavity of the eye lids were full of uncomfortable bristles, as well as a reduction of vision or eye control relative to before.

Prathama Patalagata Timira Lakshana (Su.S.Ut.7/6) When overly vitiated Dosha enters the eye through blood vessels and settles in the first layer of Dristi, the individual sees it as blurry. Inside, everything is assisted by Kalakasthi, and indistinct perception of colour, among other things, is according to the respective Doshas. The author of Panjika substitutes 'Kadchidata' for Sarvanyeva Prapashyati, implying that blurriness of vision is not always there. (6) (Dal.Su.S.Ut.7) (Dal.Su.S.Ut.7) (Dal.Su.S.Ut When Doshas travelling in the Siras get localised in the first Patala, according to Vagbhata (A.H.Ut.12/1) the individual sees the objects hazy, even though they are distinctly visible, for no apparent cause.

Lakshana	S.S.	A.S.	A.H.	M.N.	B.P.	Y.R.
Blurred vision	+	+	+	+	+	+
Haziness of vision	+	+	+	+	+	+
Visualization of false images such as ghats, hairs, webs, circles, flages and earrings	+	-	-	+	+	+
Visualization of false movements like rain, cloud and darkness	+	-	-	+	+	+
Distant objects appear to be nearer and nearer objects appear to be far away	+	+	+	+	+	+
Unable to locate the eye of a needle	+	-	-	+	+	+
Dwitiya - a variety of signs such as diplopia and polyopia, depending on where the Doshas are located in the Drishti. Visualization of items that are located above rather than below	-	+	+	-	-	-
Objects appear as if covered with cloth	+	+	+	+	+	+
Appearance of persons as if they are without ears, nose, and eyes	+	+	+	+	+	+
Coloring of Drishti	+	+	+	+	+	+
Tritiya - Various symptoms depending on location of Doshas in Drishti	+	-	-	+	+	+
Chaturtha Complete obstruction of vision	+	+	+	+	+	+

Samprapti of Prathama patalagata Timira: (Su.S.Ut.7/6) Excessively vitiated Doshas pass through the Siras and lodge in the Prathama Patala, inducing vision blurring. (Su.S.Ut.7/6 Su.S.Ut.7/6) When Doshas in the Indriyas become vitiated, they create Upaghata (destruction) and Upatapa (vikriti) in the Indriyas, according to Charaka. (Cha.S.Su.28/20)

Samprapti Ghatakas:

Dosha	-	Tridosha
Dushya	-	Rasa, Rakta
Agni	-	Jataragni and Dhatawagni
Aama	-	Tajjanyaama
Srothas	-	Rupavaha Srothas
Srothodusti	-	Sanga and Vimargagamana
Roga Marga	-	Madhyama
Adhistana	-	Prathamapatala

Sadhyasadyata (Su.S.Ut.17/53) - Timira that has not developed discoloration and is located in the Prathamapatala is curable, while Timira that has progressed to the second layer and has been coloured is curable with difficulty. The third Patala's Timira is said to be palpable only. (Su.S.Ut.17/53)

Management of Timira (Su.S.Ut.1/25) - In nutshell, the management consists of eliminating of etiological factors, the treatment of Vata etc.

Management of Timira - classified into Prophylactic & Curative

1. Prophylactic measures: Those who consume old ghee, Triphala, Shatavari, Patola, Mudga, Amalaki, and Barley on a daily basis need not be concerned about heavy Timira. Timira is relieved by a simple Payasa made of Shatavari, Amalaka, or Barley boiled with a large amount of Triphala decoction and a generous amount of high-quality ghee. (Su.S.Ut.17/ 48-49)

2. Curative a) Local: local measures include Tarpana, Putapaka, Seka, Ascyotana and Anjana. (Su.S.Ut.18/4)

b) Systemic- Samanya chikitsa of timira (Su.S.Ut.17/28) Venepuncture should be used to perform blood-letting in the six palliative conditions, and the patient should also be purgated with old ghee that has been treated with purgative medications. (A.H.Ut.13/47) The general treatment of Timira is oleation, blood-letting, purgation, nasal medication, application of Colleryium, Murdha basti, Basti kriya, Tarpana, Lepa or application of paste and seka, applied several times according to the Doshas.

Pathya Apathya:

Pathya - Triphala, Shatavari, Patola, Mudga, Amalaki, Yava, Shatavari Payasa, Jeevanti, Tanduleeya, Vastuka, Chilli, Mulaka, Patola, Karkotaka, Karavellaka, Vartaka, Karira, Shigru (Su.S.Ut.17/50-51)

Apathya: Sira mokshana. (Su.S.Ut.17/52) Amla, Lavana, Vidahi, Teekshna, Katu Ushna, and Guru Ahara Sevana, Matsya, Sura, and Jangala Mamsa Sevana, focusing on minute objects, wash, prolonged exposure to light, feeding at night, taking excess liquids, Amla, Lavana, Vidahi, Teekshna, Katu Ushna, and Guru Ahara Sevana, Matsya, (Y.R.Chi. 5/ 2)

DISCUSSION

Timira was considered by Acharya Sushrut to be 'Paramdarun Vyadhi,' which means that if left unchecked, it would eventually lead to blindness. Astigmatism is a refractive defect in which the refraction varies around various meridians, causing vision blur. As a result, light rays approaching the eye do not converge to a point fixation, but instead form focal lines. Timira that has not developed discoloration and is located in the Prathamapatala is curable, while Timira that has progressed to the second layer and has been coloured is curable with difficulty. The third Patala's Timira is said to be palpable only. Pathykar Aahar-Vihar, Netrakarma, Kriyakalpa, Panchkarma, Chakshuya medicines, and Rasayana yoga are some of the treatment modalities mentioned by Acharya for Timira. In the case of acute eye disorders, Acharya Sushrut recommends performing Langhna, Snehana, Nasya, and Virechna for three days for Dehashudhi, followed by Abhishyandokta Tarpna and Kriyakalpa. Timir's first line of care is Snehanootar Virechana, supplemented by Raktmokshna. Triphalaghrit, which is commonly used for Tarpana, is lipophilic and hydrophilic, and has excellent penetration across the cornea's different layers. Due to its Chaksushya, Rasayana, Yogvahi, and Sanskaraunvarti properties, Ghritis is ideal for Tarpana. Nasya's Shiroshudhi breaks down the Strotorodha and opens the channels for Sneha to join. Nasya aids in the removal of Aam at the cellular level as well as the calming of vitiated Vata and Kaphadosha. Strotoshodhana & Vatakapha shaman delete Awarana, Sanga of dosha, and Dhatupushti is performed on any spot. Palming, candle gazing (Tratak), convergence & zooming, figure of eight blinking, and other regular eye exercises all help to reinforce ciliary muscles, relieve spasm, and increase accommodation. Palming to blinking redistribute tears to keep the ocular surface lubricated. In this way, all treatments aid in the disintegration of Timir's Samprapti, the prevention of vision loss, and the maintenance of vision.

CONCLUSION

It can be inferred that vitiated tridosha lodges in the Prathama Patala, resulting in vision blurriness. Eliminating etiological causes, treating tridosha, Tarpana, Putapaka, Seka, Ascyotana, Anjana bloodletting, oleation, purgation, nasya, and murdha basti are all part of management. As a result, Ayurveda's approach in this area is mostly preventative and curative, with treatments that can offer a lasting and better treatment for the disease.

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