

Understanding Amblyopia in Ayurveda Perspective: A Review Article

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ABSTRACT

Vision is prime sense to have facile life and abnormalities of vision are very common in all populations with various pathologies in different parts of eye such as cornea, lens, and vitreous retina. Amblyopia is one such condition which is characterized by reversible loss of vision affecting one or both the eyes. Examination is important to rule out any organic defect in various parts of the eye. In Ayurveda, many of the visual differences are coined under the heading of Timira which is characterized by blurred vision. The Vataja Timira symptoms can be correlated to Amblyopia hence the management.

Keywords: Amblyopia, *Avyakta Darshan*, Strabismus, Vataja timira
Asian Pac. J. Health Sci., (2022); DOI: 10.21276/apjhs.2022.9.4.73

INTRODUCTION

Amblyopia is the most common cause of preventable mono/binocular loss of vision, with a global prevalence of 1.75% of population^[1] and is a potentially a reversible condition. Although classical definitions highlight that amblyopia is vision loss without any organic defect but it may be associated with an abnormality, such as strabismus, anisometropia, and media opacity.^[2] Amblyopia poses high chances of blindness in patients leading to a troublesome socioeconomic problem.^[3] Amblyopia being subterranean is avoidable and to a degree treatable and deserves the best attention of the ophthalmologist. Amblyopia screening and treatment are efficacious with correction of strabismus and anisometropia.^[4] Amblyopia even though does not possess any particular time period for its manifestation is a common cause of the childhood visual impairment. Children constitute 35–40% of the general population in considering the fact that 30% of Indians blind lose their sight before the age of 20. The management of amblyopia includes patching, penalizing, refractive error correction, surgical procedures in cases such as Strabismus and cataract-induced amblyopic conditions.

In Ayurveda, Timira is used in broad spectrum especially in cases where there is diminished vision. Difference of opinion by various acharyas is appreciable in our classics. Acharya Sushruta explained Timira in patalagata diseases^[5] whereas Vagbhata mentioned Timira under Drishthigata roga (Diseases which are affecting the vision).^[6] Laghutrayees followed the same opinion of Vagbhata in the explanation of Timira.^[7,8] Timira is classified into various types based on involvement of Dosha and Patalas (Patala is anatomical component denoting layer of eye). *Ayurveda* mentioned management of Vataja timira in form of Netra kriyakalpa, Panchkarma and Shamanoushadhis.

Management of amblyopia in contemporary medicine is with notifiable results but sometimes need of better interventions in case of time consuming and unaffordable procedures. In such a case, scope of Ayurvedic management of Amblyopia is unavoidable. In Ayurveda line of management of symptoms of amblyopia can be done with treatment of Vataja Timira. Hence, an effort is made to review the Vataja Timira with special reference to amblyopia.

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How to cite this article: Singh A, Fiaz S, Gadadi MS. Understanding Amblyopia in Ayurveda Perspective: A Review Article. *Asian Pac. J. Health Sci.*, 2022;9(4):393-395.

Source of support: Nil

Conflicts of interest: None

Received: 11/03/2022 **Revised:** 13/04/2022 **Accepted:** 13/05/2022

DIAGNOSIS OF AMBLYOPIA

Amblyopia is often defined as a two-line difference in corrected visual acuity, in the absence of ocular pathology (although amblyopia can complicate structural ocular abnormalities). While this definition may be adequate (although arbitrary) for prevalence studies in adults, it is not adequate for children. To know that a measured reduction in corrected visual acuity is significant, age-related normal values for the test used have to be known, and it is only recently that these have begun to be defined.^[9] Furthermore, a cause for degradation of the foveal image has to be present. These causes are classified as stimulus deprivation (cataract, ptosis, etc.), refractive, strabismic (which is always unilateral), and mixed. It is important to understand that visual screening does not specifically detect amblyopia, but rather identifies a visual deficit which may be due to refractive error alone^[10] or other abnormality. It is easy to assume, because amblyopia is common and other causes of visual impairment in children are relatively rare; hence, visual loss in children is due to amblyopia. It is not uncommon to see children with undiagnosed cataract or retinal dystrophy who are being treated for "amblyopia".

DIAGNOSIS OF VATAJA TIMIRA

The patients suffering from Vataja Timira see objects as if they are moving/unsteady, hazy like covered with thin cloth, dirty, reddish in color, and appear tortuous in shape (*Vyavidha darshana*). Sometimes, blurred and some other times as clear

and clean; sees webs, hairs, mosquitoes, and rays of light in front of his eyes. *Bhramnti-iva roopa darshana, Aavila darshana, Vyaviddha darshana, and Arunabha darshana* in Vataja Timira are its cardinal feature. *Aavila Darshana* in Vataja Timira can be correlated with *Avyakta Darshana* in first Patalagata Timira as blurring of vision. Rest of the features are of second Patalagata Timira. When the provoked Vata Dosh due to its etiological factors through the Sirah (Blood channels) get lodged in the first and second Patala of Netra in early childhood when the body structures are taking their shape, strength etc.; then it deforms the shape of first and second Patala/vitiates them and the deformed Patala gives rise to the clinical picture of acquired type of Vataja Timira. On the other hand, if the beeja (sperm/ovum), beejabhaga (chromosome), beejabhagavayava (genes) are defective in the father and mother of the fetus structural defects are seen in the Patalas of the Netra of the new born child leading to inherited type of Vataja Timira. If vitiated Vata dosha in the intrauterine phase happen to be there in mother/fetus then this structural deformity is seen in a baby in the form of congenital type of Vataja Timira.

PATHOPHYSIOLOGY OF AMBLYOPIA

As mentioned above in definition of amblyopia, no exact pathophysiology leading to amblyopia is explained. Moreover, many a times, management of associated complaints of amblyopia is considered as the management of the amblyopia.

SAMPRAPTI OF VATAJA TIMIRA

The surging doshas at their respective sites onsets the Timira pathology. In reference to Samprapti of Timira, Sushruta has clearly stated that when Doshas get excessively vitiated internally, pervades the Siras (vessels), and gets lodged in the first Patala of Drishti, leading to blurred vision in patient.

Further surging of the doshas in patalas further reduces the visual function and lead to *Avyakta Darshana* (blurred vision). Channels get vitiated leads to obstruction of the nutritional supply, then further involvement of second and third Patalas leads to further deterioration of Drishti (Vision); whereas in fourth Patala affliction terminates into Linganaasha or loss of vision.

Samprapti Ghatakas- Dosh – Vatapradhana Tridosha- Dushya – Rasa, Rakta, Mamsa which are the Ashraya of prathama and dwitiya Patalas- Agni – Mandagni leading to Ama formation- Srotas – Rupavaha Sira mainly- Srotodushti – Sanga and Vimaarga gamana- Rogamarga – Madhyama as Shiras (Marma) comes in Madhyama Rogayana – Adhishtana – Drishti in general and first and second patalas in particular.^[11]

TREATMENT OF AMBLYOPIA^[2]

1. Occlusion therapy occlusion of the sound (Normal) eye to force use of amblyopic eye is the main stay in the treatment of amblyopia. However, before the occlusion therapy is started, it should be ensured that: Opacity in the media (e.g., cataract), if any, should be removed first, and Refractive error, if any, should be fully corrected
2. Penalization, that is, blurring of vision of normal eye
3. Pleoptic exercises
4. Pharmacologic manipulation

5. Perceptual learning
6. Computerized active vision therapy
7. Eye patching.^[12]

MANAGEMENT OF VATAJA TIMIRA

Management of any disease condition in Ayurveda is based on the assessment of the involved doshas with help of presenting symptoms. Planning of treatment is done with the following methods.

SAMANYA CHIKITSA (GENERAL TREATMENT^[13])

General treatments are explained as the protocols based on the general symptoms of individual doshas such as Snehana, Rakta mokshana, Virechana, Nasya, Anjana, Murdha Basti, Basti, Tarpana, Lepa, and Seka – these therapies administered with respect to vitiation of doshas. In Vataja timira, one can notify the involvement of vatadosha. Hence, we physician can adapt snehana, Sneha nasya, Sneha virechana, and Basti modes of general treatment.

VISHESA STHANIKA CHITIKSA (LOCAL MEASURES)^[13]

Local measures include Tarpana, Putapaka, Seka, Aschyotana, and Anjana. All these together are known as “Kriyakalpas” evidently beneficial in the management of Netra rogas.

SHODHANA CHIKITSA (PURIFICATORY PROCEDURES)

Virechana is said to be ideal for Anulomana of Doshas. In Vataja Timira castor oil mixed with milk is applicable.

Brimhana Nasya is mentioned by the acharyas as Vataja Timira is due to predominance of vata dosha. Nasya nourishes all the sense organs.

SHAMANA CHIKITSA

Old ghrita kept in iron container is beneficial in Timira in all ways as purana ghrita is mentioned as best timirahara activity. Similarly, medicated ghrita with Triphala and Meshashringi is beneficial.

Triphala is said to be the drug of choice in case of Timira with various Anupana (vehicles) according to the involvement of Doshas. Vataja type mixed with plenty of ghee regularly other Chakshushya Rasayana compounds came into Ayurvedic literature after 16th century, namely, Saptamrita Lauha etc. many mineral and animal drugs, for example, Yashada etc. is termed as Chakshushya which are useful in the management of Vataja Timira.

DISCUSSION

In Ayurveda direct explanation of amblyopia is not found but clinical correlation can be done with the Vataja Timira. Moreover, the meticulous planning of the management is explained with various Ayurvedic principles which are clinically and diagnostically evident. Hence, physician can assure amblyopia with better outcome to the patient with the help of ayurvedic treatment protocols.

There are a number of reasons why patients might not achieve normal visual acuity following amblyopia treatment. Some patients with intricately pathology in eye which may be

unapparent with current imaging techniques.^[14] In some other patients delayed diagnosis at point where reversible changes are not evident. Nothing could be more evident than the fact that exercises of the eyes will strengthen these organs just as exercise of any other part of the body which strengthens that part, exercise of any group of muscles. It improves the circulation as to improve the condition of the adjacent parts. If any part of the body is weak, in effective exercises which involve the use of the muscles in that region will have a strengthening and toning up effect. Ayurveda therapies may help in the strengthening of the ocular and extraocular structures their by successful in the management of Vataja Timira ~ Amblyopia.

CONCLUSION

As per the detailed discussion as mentioned above, amblyopia can be correlated with Vataja Timira on the basis of presenting symptoms. Hence, the management of Vataja Timira can be considered to manage the amblyopia without surgical interventions. Ayurveda medicines are evident to reduce deterioration of the retina, optic nerve, and provide micronutrients to the macula. Even though complete cure is not assured but can be well managed which becomes vital point of consideration in the management of special conditions.^[15] The line of the management of Timira includes Snehana, Raktamokshana, Virechana, Nasya, Anjana, Shirobasti, Basti, Tarpana, Lepa, and Seka that are to be followed with repeated sittings which are evident for the management of such eye conditions.^[16] Hence, amblyopia management can be done through Ayurveda which provides satisfactory results.

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