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NEXUS BETWEEN CHAKSHUSHYOPANISHAD AND SUNNING IN RELATION TO MYOPIA

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ABSTRACT

Sarvendriyanamnayanampradhanam, among all sense organs eye, is very important. Vision is the function served by the eyes. Vision is affected in many eyes diseases and myopia is one such disease where nearsightedness is observed. The eye is the place of *Alochaka pitta* which in turn represents Agni. Surya (sun), the greatest source of Agni, has a significant role in eye health. Emphasizing this nexus *Chakshushyaupanishad* highlights the role of the sun in eye health. Observing the sun in a programmed fashion is known as sunning. This article discusses the role of sunning in eye health concerning myopia.

Keywords: *Chakshushyaupanishad*, Sunning, Myopia, *Shalakya tantra*, Sunlight.

INTRODUCTION

Ayurveda is a science that originated about 5000 years ago. It is a science of life, a divine knowledge. It is a gift of nature to humans. Shalakya tantra is one of eight branches of Ayurveda. This branch is dedicated to the treatment of diseases located above the neck i.e., eyes, ear, nose throat and head. In our ancient literature, Chakshu/ eye is considered as prime sense out of all senses. One should always do efforts to keep eyes healthy because it is stated by Acharya Vagbhatta that the whole universe is of no importance for a blind person despite having plenty of wealth resources [1]. Vagbhata quoted the importance of eyes as "The loss of Vision is nothing but loss of Life" and also in one phrase as – "An eye can perceive forms, it adorns the face, it is a source of direct knowledge, and it is a guide to avoid wrong deeds.

Hence the eye is the most important of all the senses. The diseases of the eyes are classified vividly in Sushruta Samhita and Ashtanga hrudaya. Timira Kacha Linga Nasha is a kind of disease with diminished vision. Vision is compromised in many refractive errors also. Myopia is nearsightedness. It is the most common refractive error seen in young children and adults. Decrease in the clarity of vision or blurred vision is the main symptom of myopia which will be most of the time associated with Asthenopic symptoms like headache, watering of the eye and eye strain. It is the clinical entity, which begins with a visual defect and may ultimately lead to loss of vision. The prevalence of myopia in Asia is as high as 70-90%. The data suggests that about one of every 280 people in the study population were blind from uncorrected or inadequately corrected refractive error or from refractive error-related amblyopia [2]. Experiments show that the eye becomes more sensitive to image degradation at low light and less exposure to sunlight, the human eye may also be more prone to develop myopia if the light levels are low during extended periods of near work. Sunning consists of simply bathing the eyes in the sunlight. In the Vedic period, the sun was considered the god of sight, several hymns have been described to invoke the blessings of the sun for the preservation of eyesight. The hymn is a specific formulation of letters or words designed to elicit certain vibrations in the body and to attain a specific purpose. In Indian tradition chanting of Vedic mantras is a part of life the sacred mantras are explained in Chakshushyaupanishad to protect the eyesight.

CHAKSHUSHYOPANISHAD

Chakshushyaupanishad is devoted to the protection of eyesight and curing its diseases. It is a summary of prayers to the sun, chanting of which is said to promote eyesight and better health. Surya the Sun God is the soul master to the eyes, who is requested to cure all the diseases infecting the eyes. Prayer is offered to Him that "let the darkness of ignorance be removed and this world of living beings entirely be made free from the bondage of nescience and illusions by His providing divine splendour." Those who chant this Upanishad with devotion and faith get immediate auspicious results by the grace of Lord Surya. The Chakshushya Vidya (learning related to healing of the eyes) is easily attained as a result of reading this text, now being described. The learning of this text is competent to remove all sorts of diseases about the eyes from their roots cause. The eyes get more brightness (of inner sight also) by the virtue of the recital of this Upanishad. The intuition to the hymn relating to its learning is sage Anirudhan. Its rhyme (Chanda's) is Gayatri, and the presiding deity(adhidevata) is Lord Sun. To remove the eye ailment this is applied through Japa.0! Surya, the sole Lord of the eyes. You are the splendour of the eyes enshrined permanently in the vision of the eyes. O! Lord Surya! please protect me and remove my eye-ailments immediately. Let me be able to see the divine luminous light emanating from you (which is spiritual and also glittering to the eyes as gold). May the auspiciousness be showered upon me, that I don't suffer from blindness. May all the wrong deeds that I might have been committed in my previous births resulting in the impediment of vision be uprooted, for which I pray to you. Kindly shower Thy grace for the welfare of all. Lord Surya who is affluent with divine flames, who is the endower to the eyes, and a divine splendour, therefore be saluted and propitiated. Salutations to the merciful and immortal God with the (auspicious) garb representing Om. Salutations to Lord Surya, who is the life-luminous to the eyes Salutations to Lord Surya, who shines in the (Supreme level) heaven. The noble and best form of Sun is saluted. Salutations to Lord Surya, whose activities are mostly by the attribute of Rajas. Lord Sun, the resort of Tamas (merging the darkness within himself) is saluted. O! Lord! Please may we be led to Sattva (the supreme attribute) and protect us from falling from the truth. O! Lord Surya salutations to You. A learned person (a good-natured one) who recites this Upanishad daily, which is connected with the nourishment of eyes, does not suffer from any kind of eye-ailment. Nobody in his clan suffers from blindness.[3]

SUNNING

Natural relaxation technique for the eyes is sunning. This simply means facing sunlight but with eyes closed. The right way to do this exercise is to sit or stand facing the sun with the eyes closed and then swing the body gently from side to side like a pendulum for 2 to 5 minutes. Morning and evening are the best time for sun treatment. This treatment becomes more effective if honey is applied with a glass rod. This gives better results and relieves strain, more quickly. In absence of sunlight 200 to 300watts, electric light can be used. After sun treatment it is good to wash the eyes with cold water. It is better to take sun treatment many times for short periods than at one time for a long period. One should not look at the sun with open eyes. Sunning stimulates the retina, abolishes photophobia, clears bloodshot eyes and prevent granulation of the lids and eliminates itching of the eyes.

Retinal dopamine activity on exposure to sunlight

The release of dopamine from dopaminergic retinal neurons (i.e., activation of dopaminergic pathways) has long been known to be stimulated by light. Dopamine activity (synthesis, turnover, and release) is higher during the day and lower at night on a circadian rhythm [4] In addition, dopaminergic activation has been implicated in the control of myopia development in animals.[5] Thus, as reviewed recently, retinal dopaminergic activation seems very likely to play a role in the protective effects of outdoor activities in children and the effects of elevated light levels in animal studies. Until recently, studies of the role of dopamine have mostly focused on 1) the mechanisms that alter retinal sensitivity and function involved with switching between scotopic (rod-mediated) visual function and photopic (cone-dominated) visual function and 2) the mechanisms involved in establishing and maintaining circadian rhythms of sleep vs. wakefulness. These studies have provided important information, particularly about the role of dopamine and melatonin in modulating retinal function in the transition between states. Rarely, however, have studies been concerned with visual function from low to high photopic (outside) conditions and/or with considerations of seasonal changes in the length of the day (the photoperiod). It is well established that light triggers dopamine synthesis and is released by dopaminergic amacrine cells (some in the inner nuclear layer of the retina, some with inner plexiform processes); activity of the retinal dopaminergic system is higher in the day [6]. However, there have not been systematic studies of retinal dopamine levels and levels of dopamine metabolites in animals exposed to illuminance levels ranging from low photopic to the "elevated" levels that have been shown to slow myopia development. One study found that light-triggered dopamine release plateaus at around 100 lux [7]. In preliminary studies, we have found that mid-day retinal levels of the dopamine metabolite dihydroxyphenylacetic acid (DOPAC), generally accepted as an indicator of dopamine release, were 30% higher in our "elevated" light-level condition (15,000 lux 7.75 hours per day, n=4) than in standard colony lighting (100 – 300 lux, n=4). Thus, light levels above those examined previously may produce further elevations in retinal dopaminergic activity.

Darkness and its effect on myopia

In tree shrews that have emmetropized in standard colony lighting (100 – 300 lux at the cage floor) with a 14:10 light ON: OFF schedule, treatment with 11 days of complete darkness produced axial elongation and myopia [8]. Corneal power was unaffected. It appears that darkness, after exposure to circadian light/dark cycles, produces increased axial elongation and myopia.

It may be that visual experience in cyclic day/night conditions produces retinal maturation and activates the retinal "go" and "stop" signals of the emmetropization mechanism [9]. Subsequent continuous darkness may be myogenic because it disrupts the circadian rhythms and either produces "go" signals or removes "stop" signals. Taken together, the low light and dark-treatment experiments in chicks and tree shrews suggest that very low (less than 1 lux) light levels favour axial elongation that, if there are no corneal changes, results in myopia.

CONCLUSION

Myopia occurs in more than 50% of the population in many industrialized countries and is expected to increase; complications associated with axial elongation from myopia are the sixth leading cause of blindness. At the same time, population studies suggest that the development of myopia is associated with the amount of time spent doing near work and less exposure to sunlight. In Chakshushyaupanishad importance is given to sunning. Sunning causes the release of dopamine which is responsible for the development of eyeballs. Studies have shown that dopamine reduces the axial length of the eyeball thus reducing myopia.

REFERENCES

1. Vagbhata. Ashtanga Hridayam Uttaratantra with Bhagirathi Tippani (Teradata Panna) Edition II. Chaukhamba Sanskrit Series Office, Varanasi, 1980
2. Dadapeer k. Essentials of Ophthalmology. New Delhi: Jaypee Brother Medical Publication: 2015-1. pp138
3. Dr. T. Narayanan Kutty Aditya hrudayastotram and Chakshushyaupanishad
4. (Brainard and Morgan, 1987; Doyle et al., 2002; Iuvone et al., 1978)
5. (Iuvone et al., 1991; McCarthy et al., 2007; Rohrer et al., 1993; Schaeffel et al., 1995; Stone et al., 1989; Stone et al., 1990).
6. P. Witkovsky Dopamine and retinal function Doc. Ophthalmol., 108 (2004), pp. 17-40
7. Brainard GC, Morgan WW. Light-induced stimulation of retinal dopamine: a dose-response relationship. Brain Res. 1987 Oct 20;424(1):199-203. DOI: 10.1016/0006-8993(87)91211-x. PMID: 3690300.
8. Darkness causes myopia in visually experienced tree shrews. *Norton TT, Amedo AO, Siegwart JT Jr Invest Ophthalmol Vis Sci. 2006 Nov; 47(11):4700-7.*
9. Basic fibroblast growth factor (bFGF) and transforming growth factor-beta (TGF-beta) act as a stop and go signals to modulate postnatal ocular growth in the chick. *Rohrer B, Stell WK Exp Eye Res. 1994 May; 58(5):553-61.*

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