

GLIMPSES OF SQUINT – AYURVEDIC APPROACH AND CURRENT TRENDS IN OPHTHALMIC PRACTICE

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ABSTRACT

Squint or Strabismus is the condition when the two eyes are not aligned properly. Due to which, when the visual axes of both the eyes do not meet at the point of fixation squinting occurs. The condition of squint happens when there is disturbance in oculomotor functioning or it may cause due to neuro disturbances. These squints can be neurogenic, myogenic, mechanical or a combination of these. According to cause of squint the approach to manage the case can be decided. Optics, Orthoptics and Surgical management are the basic modalities followed in ophthalmic practice. When squint case is approached in the *Ayurvedic* view it is correlated as *Netra-teeryakata*. When *Netra-peshi* (Extra ocular eye muscles) gets weaken due to any abnormal factors it results in *Netra-teeryakata*. Due to which limitation of eye movements, diplopia, false orientation of the object, head tilt are the symptoms which can be observed. *Ayurveda* is the science which stimulates the body tissues itself by which growth and development of every organ can be strengthened. *Kriyakalpa* plays important role in enhancing health of eyes. While managing cases of squint ophthalmic practitioner can suggest suitable *Kriyakalpa* to the patient to restore the *Peshibala*. Other recent trends are also adaptable by the patient simultaneously like eye patching, eye exercises. The cumulative effect of *Ayurvedic* local therapy for strengthening of eye muscles and latest advance techniques will give better results to manage squint in early phase.

KEYWORDS: Squint, *Neta-teeryakata*, Local therapies, *Kriyakalpa*, *Netra-Peshibala*, Eye exercises.

INTRODUCTION

When both the eyes are not in alignment and visual axes do not meet at the point of fixation the condition is said to be the squint or strabismus.^[1] In such cases the angle between optical axis and visual axis is different at both the eyes. The classification of squint is done as comitant and incomitant squint. In comitant type of squint there is no local defect in the oculomotor apparatus.^[2] Because of which eye movements are full and angle of deviation remains constant in all directions of gaze. Incomitant squints are characterized by a variation in the amount of deviation in different gaze. *Netra* is the organ of vision which is explained as having *Paanchabhautika* configuration. Structural built-up of the eye is formed by *Prithvi* and *Jala* which is *Sthoola Bhaava*. Functional unit of *Netra* is formed by *Vaayu* and *Aakash* which is *Sookshma Bhaava*.^[3] When both structural and functional units work together along with *Aalochaka Pitta* as *Agni*, Eye movements and visual pathway functions well. Therefore, *Kriyakalpa* which balances vitiated *Vaayu* and strengthens *Parthiva Bhaava* can help to increase *Netrapeshi-bala*. Also, the eyeball is held in the orbital cavity by extraocular muscles from behind

against the gravitational force. *Netra-teeryakata* is the *Netra Peshi-gata Roga*.^[4] According to *Ayurveda* the *Kandara* (Tendinous part) and *Peshi* (Extra-ocular muscles) along with required amount of *Meda* (orbital fat) are responsible for the normal synchronized working of both the eyes. The *Ayurvedic Kriyakalpas* like *Netra-Tarpan*, *Netra-Seka*, *Pindika* can help to improve the strength of the muscles of the eye ball. Currently in modern ophthalmic practice, non-surgical methods like refraction, eye patching, basic eye exercises are suggested to manage the squint cases at primary levels.

AIM: To explore the approach of *Ayurveda* in managing squint cases along with current techniques.

OBJECTIVE: To review the cumulative effect of local therapies and eye exercises in squint management.

MATERIALS AND METHODS

Squint management, its current trends and *Ayurvedic* ophthalmic practices are reviewed from various available literature. The diagnosis of the squint, its classification is to be understood to choose the proper line of treatment

for the patient. Optics, orthoptics and surgical ways are available in routine practice. Non-surgical techniques include methods like refraction, occlusion therapy and eye exercises.^[5] Strengthening the extra ocular muscles and normalize physiology of eyes is the main purpose of the various therapies available. Basically, when Motor or sensory disturbances occurs in working of eyeballs to perceive image the laws of ocular motility are not followed and thus vision get disturbed. Herring's law of equal innervation and Sherrington's law of reciprocal innervation are much important phenomenon take place simultaneously; responsible for the normal ocular movements in both the eyes.



Figure 1 - Eye Patching

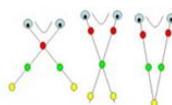


Figure 2 – Brock String Eye Exercises

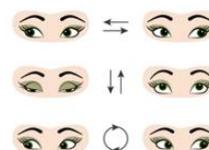


Figure 3 – Eye Exercises in Specific Gaze

In cases of convergent type of squint Phoria Directional swings are advised for 30 seconds to 2 minutes as per the comfort of the patient. By using the bead string of 3 different colorful beads, the Brock string is used for this exercise which is placed in front of the face of the individual. It improves the power of convergence and improves power of fixation of eyeballs. This eye exercise is advised step by step for specific time period by keeping both the eyes open simultaneously, then after patching the lazy eye followed by patching of strong eye alternately two to three times and at the end again the procedure repeated by keeping both the eyes open. This method results in enhancing fixation power of the eyeball, it keeps the eyes, eye muscles, vision and brain – visual cortex, left and right hemisphere function with the left and right eyes balanced. Overall, the synchronization of both the eye ball working can be restored by eye exercises. When both the eyes work parallelly, then the three-dimensional view or binocular vision perception happens. Synoptophore is an instrument used for visual rehabilitation which helps to improve the fusional convergence or divergence. Because of such kind of exercises the binocular cooperation of the individual improves.

Mechanically, the principle of modern methods is to make eye muscles work in synchronized manner causing neurological balances too. But, when approach of *Ayurveda* is reviewed it is observed that, local therapies and *Balya Kalpas* systemically acts and helps to improve the strength of the *Peshi* of *Netra*. Also, *Swasthavritta* has mentioned some methods like *Trataka*.^[6] *Bahya Trataka*, *Bindu Trataka* are some types of *Trataka* advised in *Yogic* practice.

For the treatment purpose, at primary levels refraction is advised in cases of squint. Along with refraction, occlusion therapy is also advised in some cases of squint with amblyopia. Orthoptic exercises also play important role in managing squint. Structural to functional disturbance or functional to structural pathologies either responsible in cases of squint. Hence, when thinking from *Ayurveda* point of view, when *Panchamahabhoota*, *Tridosha* and *Saptadhatu* are balanced it strengthens and normalize the functioning of eye muscles. In modern ophthalmic practice, routinely eye patching is advised by the ophthalmologists.



Figure 4: Bahya Trataka.

Bahya Trataka is usually practiced by gazing continuously at the single point for a longer period. For the beginners, gazing at a single point is a good practice. One can take some reference of object like moon gazing, aum symbol gazing, crystal gazing, candle gazing. It is not necessary that, someone having squint can only do this but; the healthy person is also advised to follow the procedure like *Trataka* for eye health maintenance. *Kriyakalpas* and *Keraliya* therapies^[7] are also beneficial to restore the *Peshibala* of *Netra*. *Ayurveda Kriyakalpas* are more therapeutic and *Keraliya* therapies mainly helps for palliative actions. *Keraliya* therapies include *Tarpana*, *Dhara (Netra-Seka)*, *Pindika*, *Shirobasti*, *Shirodhara*, *Nasya* treatments. For *Netra-Tarpana*, *Triphala Siddha Ghrita* can be advised. For *Netra Seka*, *Triphala Kwath* can be suggested. These procedures helps to improve power of eye muscles and neurological benefits can be achieved by *Shirodhara*, *Shirobasti*.

DISCUSSION

Some classical *Kriyakalpas* and *Keraliya* therapies have potential to increase muscular strength of eyeball. It provides palliative support to avoid more functional loss. *Sthanik Dosha Shaman* is achieved by local therapies

like *Netra Tarpana*,^[8] *Seka*, *Pindika*. *Nasya* also plays important role in enhancing neuro-muscular power of the individual in cases of *Urdhwajatrugata Vyadhis*. Squint is also an *Urdhwajatrugata Vikara*. Therefore, medicated *Ghee* or *Oils* like *Yashti-Siddha Ghrita*, *Anutaila*. *Bala*

Taila can be advised to the patients with respect to factors like *Rogi Bala*, *Kala Bala*, *Ritu Bala*. Also, eye exercises and *Yogic Kriya* like *Trataka* are helpful for better eye health of the individual when advised simultaneously.



Procedures to Improve *Netra-Bala*

- *Netra-Tarpana*
- *Netra-Seka*
- *Pindika*
- *Shirodhara*
- *Shirobasti*
- *Nasya*

Figure 5: Kriyakalpa Procedures for Eye Health

All these therapies balances *Vaayu* because medicated *Ghrita*, some medicated oils are used for these procedures like *Triphala Ghrita Tarpana*. When *Vaayu* is controlled *Gati* and *Chalatva* of the eye can be balanced; which results in betterment of eye functioning. In clinical practice, *Vatashamak Dravya* like *Bala Siddha Ghrita*, *Chakshushya Dravya* like *Jeevaniya Ghrita* can be used for *Tarpana*. *Godughdha Siddha Chakshushya Dravyas* can be used for *Dhaara (Parishkek)* over both the eyes. In amblyopic patients also, *Basti Chikitsa* (Classical Medicated Enema Therapy) helps to normalize the vitiated *Vata Dosha*. Locally because of *Tarpana*, the *Snehana* of corneal tissue occurs which also helps to maintain the normal curvature of the cornea. Which is directly responsible to reduce the refractive error and also results in prevention of Squint. Hence these *Kriyakalpas* and exercises like *Trataka* are really beneficial for the healthy individual and as well as to the person having squint.

CONCLUSION

Along with latest modern techniques, *Ayurveda* therapies can be beneficial to restore normal eye functioning when Squint is diagnosed in early phase. The cumulative effect of modern trends to manage squint and *Ayurveda* trends to achieve the therapeutic and palliative benefits, results in improvement of working of eye muscles. Therefore, overall visual improvement can be achieved by refraction, eye patching, *Yogic Kriya* like *Trataka*, eye exercises, and procedures like *Netra-Tarpana*, *Netra-Seka* when implemented in early phase of the squint in routine ophthalmic practice. The integrated results of combination of modern and *Ayurvedic* techniques to manage the squint beneficial for the recovery in less time.

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