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A Clinical Study on the Role of Akshi Tarpana and Pada Abhyanga in Timira (Simple Myopia)

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Abstract: ***Myopia is a major public health problem pertaining to eye that entails substantial, societal, personal, educational and economical impact. Various surveys in India have found the prevalence of Myopia ranging from 6.9% to 19.7%. Myopia progression is irreversible and methods for correction of Myopia are not without complications. Around 60% cases of blurred vision are due to simple Myopia and this may present from simple eye strain to blurring of vision. The contemperory medicine advises optical correction and LASIK surgery for managing this condition; whereas Ayurveda provides better care and prevent complications in initial stages. In this paper, a case of Simple Myopia managed with Ayurveda protocol has been presented.***

Keywords: Akshi Tarpana, Patala, Pada abhyanga, Simple myopia

1. Introduction

Myopia, commonly referred to as Short sightedness, is a common cause of visual disability throughout the world. Various survey in India has reported prevalence of Myopia as ranging from 6.9% to 19.7% [1]. Among various ophthalmic disorders, Simple Myopia deserves special reference as it may later lead to Pathological Myopia; an unsolved task in the field of Opthalmology. Since the no current treatment modalities can reverse the structural changes of Pathological Myopia, preventing myopia has long been a goal for Opthalmologists and scientists researching on pathologies of vision. Hence, Myopia has been chosen as a priority for 2020, a global initiative for the elimination of avoidable blindness [2]. Near sightedness can be corrected with spectacles, contact lenses or refractive surgery. All these treatments are not much patient friendly and may cause some complications, including corneal infections due to contact lens wear and corneal scarring and persistant corneal haze from refractive surgery [3] . Refractive surgeries for treatment of Myopia are both costly and unsuitable for children's eye and do not change axial elongation which is a commonest source of Myopia [4]. These are not the permanent solutions to the pathological process occurring in eye. The pathophysiology seems to be similar to that of the classical description for Timira in Ayurveda literature. Ayurveda ocular therapies also known as Kriya kalpas are well known nowadays in the management of Myopia. Among them Tarpana a variety of Bahya sneha is the most frequently used and effective therapeutic procedure on account of its sound literary and practical evidences. The treatment principle of Timira includes Koshta shuddhi followed by Tarpana and Pada abhyanga. Netra tarpana is a procedure in which medicated Ghee is retained over the eyes for a specific duration of time. Once the eye is covered with Ghee, the patient is asked to open and close the eyes several times before the medicament is removed. Ghee is said to strengthen and nourish the eyes and improve vision. Triphala ghrita [5] is administered in this case of Simple Myopia.

2. Case Report

A 15-year-old male patient of Vatakaphaja prakruti visited the Shalakya tantra OPD, R P Karadi Ayurvedic Hospital Ilkal, India, patient was diagnosed with Simple myopia. He was presented with diminished vision in both eyes since 2 years associated with frontal headache and watering of eyes.

3. Treatment Protocol

On the day of admission, after taking written informed consent, careful assessment and examination was done. Patient was advised for Deepana Pachana with Chitrakadi Vati [6] that includes Chitraka (Plumbago zeylanica), Pippali moola (Piper longum), Yava kshara (Hordeum vulgare), Swarjik Kshara, Souvarchala lavana, Saindhava Lavana, Vida Lavana, Samudra Lavana, Audbhida lavana, Trikatu, Hingu (Asafoetida), Ajamoda (Trachyspermum roxburghianum), Chavya (Piper chaba), Matulunga swarasa. With Ushna jala for 2 days. After obtaining Nirama lakshana, On the 3rd to 9th day Tarpana Followed by Pada abhyanga was done with Triphala ghrita and Maha narayan taila [7] respectively. Tarpana Ghrita was retained for 45 minutes. And Pada abhyanga for 10 minutes. Patient was advised to avoid exposure to bright light, wind and sunlight for next 15 days. Assessment was done on the subjective and objective parameters before and after the treatment. Overall improvement in symptoms was graded based on the patients presentation and physicians observation and were documented before and after treatment. A scoring pattern was prepared for assessment of subjective parameters [8] (Table 2), objective parameters based on Log MAR scale (Table 3) and auto refractometer reading[9] (Table 4).

Treatment	Duration	Medicines Used
Deepana Pachana	2 days	Tab.Chitrakadi Vati 2 Tab TID
Akshi Tarpana	7 days	Triphala Ghrita
Pada Abhyanga	7 days	MahaNarayana Taila.

4. Outcome

During the initial screening and after treatment; blood pressure, temperature, pulse rate, heart rate were found to be

normal. Subjective parameters like blurring vision, watering of eyes, headache and eye strain have reduced after treatment. No relapse was noticed during follow up period. Marked improvement in visual acuity Snellens chart reading and autorefractometry reading was noted when before treatment, after treatment and during follow up periods. (Table 4)

Ingredients of Triphala Ghrita

SL.NO	Drug	Botanical Name
1	Haritaki	Terminalia chebula
2	Vibhitaki	Terminalia bellerica
3	Amalaki	Emblica officinalis
4	Jala	Water
5	Go ksheera	Cows Milk
6	Go Ghrita	Cows Ghee

Table 2: Gradation of Symptoms for Assessment

Gradation Index	Blurring of Vision	Watering From Eyes	Headache	Eye Strain
0	Absent	Absent	Absent	Absent
1	Occasinally present	Occasional	Occasional	Occasional
2	Intermittant adjust with squeezing of eyes	Intermittant	Intermittant	Intermittant
3	Frequent tolerable with refractive aids	Frequent	Frequent	Frequent

Table 3: Gradation for Snellens visual acuity chart reading

6/6	6/9	6/12	6/18	6/24	6/36	6/60
0.1	0.2	0.3	0.5	0.6	0.8	1.0

Table 4: Improvement in Objective Parameters

Objective Parameters	Before Treatment (Right eye)	Before Treatment (Left eye)	After Treatment (Right eye)	After Treatment (Left eye)
Visual acuity Snellens chart reading	6/18P	6/12P	6/6P	6/9P
Near Vision	N6	N6	N6	N6
Auto refractometry.	-0.75	-1.00	-0.25	-0.50

5. Discussion

Akshi Tarpana-Mode of Action

The kriyakalpa are treatment procedures mentioned to cure Netra vikaras in Ayurveda. Akshi Tarpana is one of the kriyakalpa used to strengthen eyes and to improve vision. Akshi Tarpana aims to provide optimum rejuvenation to the eyes. The prolonged contact allows for better absorption of drugs active components directly impacting the cornea and potentially altering its refractive index, which can lead to improved vision.

- **Corneal permeability**-The cornea has a unique structure that allows lipid soluble drugs to readily pass through the epithelium, while water-soluble drugs can pass through the endothelium.
- **Sustained Contact**-The prolonged contact time with the cornea, achieving through Tarpana, enables more of the drugs active components to a higher therapeutic concentration.
- **Pressure and Refractive Changes**-Tarpana can exert pressure on the cornea, potentially leading to alterations in its shape and refractive index. This could reduce the convergence of light rays, which might benefit conditions like near sightedness(myopia) or farsightedness(hyperopia)
- **Flatter Corneal Surface**-The prolonged contact time might help to flatten the corneal surface, which could also contribute to improved vision.
- **Bahya snehana**-Tarpana operates on the principle of external lubrication, delivering nourishment and strengthening the eyes various structure
- **Targeted Nutrition**-The specific drugs used in Tarpana are chosen to deliver direct nutrition to the ocular and periocular structures, as well as strengthen the eyes sphincters.

Padabhyanga-Mode of Action

In ayurveda there is strong belief that stimulating certain pointa (Marma points) on the feet especially areas like Kshipra marma, Talahridaya marma can directly influence eye health. The soles are rich in nerve endings and by nourishing them with Maha narayan taila-which has Vata pacifying, nourishing, and rejuvenating effect-may indirectly help reduce eye strain, dryness and even support vision health. Classical texts like Ashtang hridaya and Charaka Samhita hint that regular Padabhyanga can prevent eye disorders like Timira and other Netra rogas.

And there is link between Pada(foot) and Netra (Eye). Both these can be considered as two poles of our body and still drug instilled from one pole or Abhyanga (Massage) applying from one pole i.e. Pada can reach to other pole i.e. Netra. In nadi vigyana, nadi darpana it has been quoted that there are ten nadi (nerves), in head among which two are related to eyes.

Gandhari-surround Ida nadi (Type of nerve), which extends from paada and ends in left eye

Hsatijihwa-surrounds Pingala nadi (type of nerve), which extends from paada and ends in right eye.

Acharya Vagbhata also mentioned two siras (vessels) situated in the center of foot which is connected to the eyes. Padabhyanga, even though a small procedure the benefits of this procedure is broad spectrum i.e. from locally to systemic effect.

6. Conclusion

Based on the observations made in the case, it can be inferred that, Ayurvedic treatment protocol is effective in the

management of simple myopia. Around 60% cases of blurring vision are due to simple myopia presenting from simple eye strain to blurring of vision especially seen during age group of 8-22 years. This age is vital in the human life and appropriate corrective measures need to be taken in time. Overall effect of Triphala Ghrita seems to be beneficial in correcting the pathology and improving visual acuity. The efficacy may be evaluated in larger sample size following systematic approach.

Single treatment may give less result compared with combined treatment protocol will show effective result.

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