



Research Article

www.ijrap.net

(ISSN Online:2229-3566, ISSN Print:2277-4343)



ROLE OF SHRUNGAVERADI TAILA NASYA AND VIDDHAKARMA IN THE MANAGEMENT OF TIMIRA (SIMPLE MYOPIA): A PILOT STUDY

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Received on: 30/05/23 Accepted on: 02/07/23

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DOI: 10.7897/2277-4343.1404106

ABSTRACT

Introduction: The pace of life in today's society has grown fast, erratic, and stressful, causing visual acuity to be hampered, which can be linked to Timira described in Ayurvedic classics. Timira, characterised as an eye ailment in Ayurveda, can be correlated with refractive errors. Myopia is a type of refractive error in which distant vision is hampered and affects a considerable portion of the population today. Patients with vitiated doshas have fuzzy vision when they reach the prathama patala of the eye; this stage is marked by avyaktasdarshana (Sushruta) and animitta avyakata rupa darshana (Vagbhata). All Acharyas describe prathama patalagata Timira as a sadhya drishtigata roga. Nasya is a therapeutic modality for urdhwajatrugata vikaras, according to Vagbhata. In Sutrasthana, Sushruta describes Viddha karma as a cure for Timira. Shrungaveradi taila Nasya is recommended for the treatment of patalgata vikaras in Bhaishajya ratanavali. Case presentation: In this study, prathama patalgata Timira patients were chosen, and Nasya with Shrungaveradi taila and Viddha karma on alternate days was performed for eight days in these patients. The pilot study showed promising results.

Keywords: Timira, Nasya, Shrungaveradi taila, Simple myopia, Viddha karma

INTRODUCTION

The eye is the most important of all sense organs, and the word drishti refers to the function of vision. In Uttartantra, Sushruta described twelve drushtigata rogas¹.

The anatomical consideration of patalas and the symptoms of vitiated doshas located in these patalas demonstrates that the term Timira, which is characterised as an eye ailment in Ayurveda, is nothing more than refractive errors. The word Timira means "darkness", and the clinical symptoms of Timira are linked to the dominance of vitiated dosha. The severity of the Timira is varying according to the number of patalas involved. The patient's eyesight will be obscured when the dushita dosha reaches urdhvagamitva and reaches the first patalas of the eye. Avyaktasdarshana by Sushruta ² and animitta avyakta rupadarshana by Vagbhata ³ define this stage. When the dushita dosha reaches the second patalas of the eye and achieves urdhvagamitva, vihwaldarshana, and gocharavibhrama ⁴ characterise it.

The pace of life in today's society has grown fast, erratic, and stressful, causing visual acuity to be hampered, which can be linked to Timira, as mentioned in Ayurvedic classics. In the form of Timira, Sushruta acharya has presented an algorithm for the progression of visual disturbances. Timira is nidanarthakara roga for lingnasha because untreated Timira leads to Kacha, which leads to linganasha ⁵. As linganasha is total blindness, the quick management of Timira is emphasised in the Samhitas.

Myopia is a refractive error in which parallel beams of light come to focus anterior to the light-sensitive portion of the retina when

accommodation is at rest ⁶. Myopia has far-reaching consequences on human life. After cataracts, glaucoma, and senile macular degeneration, myopia is the fourth leading cause of vision loss. Because it primarily affects young individuals, it can potentially obstruct schooling, personality development, and employment chances, lowering overall quality of life.

The relevance of the classical method in the care of eye disorders as described in Ayurveda cannot be overstated, yet it is necessary to re-establish it in the present age. Snehapana, Raktamokshana, Virechana, Nasya, Anjana, Shirobasti, Basti, Tarpana, Mukhalepa, and Seka are some of the therapeutic measures listed in the therapy of Timira ⁷. Nasya is a treatment for urdhwajatrugata vikaras, as mentioned in Ashtanga Hridaya. In Bhaishajya ratanavali, Shrungaveradi taila Nasya is mentioned for treating patalgata vikaras ⁸. According to the available literature and discussion, Nasya with Shrungaveradi taila appears to be a potential modality for addressing this issue; hence, it was chosen to investigate the effect of Shrungaveradi taila Nasya in the Timira. According to Acharya Sushruta, for the treatment of Timira, Siravedha should be performed in upanaska, apanga, and lalaat pradesha ⁹.

Spectacles are used to correct refractive errors but do not cure or prevent the progression of myopia pathology. Laser and surgical treatments for myopia correction are commonly employed in practice but are not without risks. The cost of operation makes it out of reach for the average earning person. Nasya is widely used in refractive defects, and Viddha karma is a simple, non-invasive, and cost-effective therapy. As a result, the above topic has been chosen for pilot research.

MATERIALS AND METHODS

An open randomised clinical pilot study was conducted on 30 patients diagnosed with prathama patalgata Timira (simple myopia).

Inclusion Criteria

1. Patients with symptoms of prathama patalgata Timira and simple myopia (myopia from -0.75 to -3 diopters) were selected.
2. Patients were selected irrespective of their gender, caste, or religion.
3. Patients were between the age group of 18 years to 30 years.

Exclusion Criteria

1. Patients having pathological myopia and high myopia with degenerative and gross retinal changes were excluded.
2. Myopia associated with neighbouring structural deformities like corneal opacity was excluded.
3. Patients suffering from any of the systemic disorders were excluded.
4. Patients who have undergone any of the refractive surgeries

were excluded.

5. Patients who are contraindicated for Nasya and Viddha karma were excluded.

Withdrawal Criteria

Written consent was taken from each patient willing to participate before starting the study. The patients were free to withdraw their names from the study at any time without giving any reason.

Consent

Before beginning the study, each participating patient must sign a written consent form. Patients can withdraw their names from the study for any reason.

Grouping

Group A: Shrungaveradi taila Nasya for seven days in 15 patients of prathama-patalgata Timira (simple myopia).

Group B: Shrungaveradi taila Nasya followed by Viddha karma on alternate days (1st, 3rd, 5th and 7th day) for seven days in 15 patients of prathama-patalgata Timira (simple myopia).

Review of Shrungaveradi Tail

Table 1: Shrungaveradi Tail: Content and Properties

| Dravya Name | Latin Name | Rasa | Virya | Vipaka | Part used |
|-------------|----------------------------|------------------------|-------|---------|-------------------|
| Shrungaver | <i>Zingiber officinale</i> | Katu | Ushna | Madhura | Root |
| Yashtimadhu | <i>Glycyrrhiza glabra</i> | Madhur | Sheet | Madhur | Kanda |
| Bhringaraj | <i>Eclipta alba</i> | Katu, Tikta | Ushna | Katu | Whole plant |
| Tila taila | <i>Sesamum indicum</i> | Madhur, Kashaya, Tikta | Ushna | Madhur | Beej ⁸ |

Preparation of Shrungaveradi taila

Preparation of the study drug was done as per the description in Samhita. Yashtimadhu bharad, Shrungaver kalka and Bhringaraj kalka were taken equally, and water was added to 16 parts. The decoction was prepared by heating up to one-fourth parts of the contents. This decoction was then mixed with four parts of Tila Taila and heated till all water content evaporated, and Siddha tail was obtained by straining through a clean cloth and stored in a glass container.¹¹

Mode of Administration: Nasya

Dosage: Six Bindu per Nostril^{12,13}

Duration: Seven Days^{11,14}

Standard Operating Procedure of Nasya karma

Purva karma: The patient was asked to lie comfortably in a supine position on a table, and abhyanga with lukewarm Tila taila was done over face, scalp, temporal and neck region. After completing abhyanga, mrudu swedana was done by covering the eyes with wet cotton.

Location of Viddha karma points



Bhrumadhya



Lalate



Apange



Upanasike

Pradhana karma: After purva karma, the patient was asked to relax and lie on a table in a supine position. The head portion was made to extend further from the table's edge, bending at an angle. Shrungaveradi taila was taken in gokarna, and six drops were administered in each nostril. After that, the patient was instructed to inhale deeply and was advised to spit out the drug reaching the throat.

Pashchat karma: After performing the Nasya karma, the patient was allowed to relax in the supine position. The patient was advised to spit out the nasal secretion reaching the throat. After this procedure, gargling with lukewarm water was given to the patient. After this, the patient was instructed not to take cold food or water and to avoid exposure to wind and dust.

Viddha karma

Viddha karma was done on alternate days after Nasya, i.e., on the 1st day, 3rd day, 5th day and 7th day) for four sittings in 7 days of treatment.

Viddha karma was done on the following points described by Sushruta, brumadhya, lalate, apange and upnasika.

Standard Operating Procedure of Vidha karma

Pre-procedure

- A written consent was taken.
- The patient was made to lie down in a supine position with thumbs touching their respective palms and fists clenched tightly.

Procedure

- The area was cleaned with a betadine solution swab.
- With a 26-no. 0.5 inch needle, held perpendicular to the site of vidha, a gentle prick of 1.5-2.5 mm deep (since the subcutaneous layer is vascular and is around 1.5-2.5 mm deep) made at bhrumadhya, upanasika, lalaat and apanga each on both right and left aspects of the face.

Post-procedure

- Blood oozed out from the pricked site and was wiped with cotton.
- The needle used for Vidha karma was disposed of.

Criteria for assessment of effects of the treatment

Assessment was based on relief found in the clinical signs and symptoms of the disease. For this purpose, the main clinical signs and symptoms were given suitable scores according to their severity, and assessment was done before, during and after treatment. The following symptoms were assessed according to their respective gradations.

Subjective Parameters

1. Durastha avyakta darshana (indistinct distance vision)
2. Vihwala darshana (blurred vision)
3. Shirobhitapa (headache)
4. Netrayasa (eye strain)

Objective Parameters

1. Visual acuity
2. Auto refractometer readings
3. Subjective Spectacle trial

Table 2: Assessment of Response

| Visual acuity on Snellen's | Assessment on response |
|----------------------------|------------------------|
| One line improvement | Mild |
| Two-line improvement | Moderate |
| >2-line improvement | Marked |

Table 3: Auto Refractometer reading converted into grades

| Autorefractometry Reading | Grade |
|---------------------------|-------|
| 0.0 | 0 |
| -0.25 to -0.50 | 1 |
| -0.75 to -1.00 | 2 |
| -1.25 to -1.50 | 3 |
| -1.75 to -2.00 | 4 |
| -2.25 to -2.50 | 5 |
| -2.75 to -3.00 | 6 |

RESULTS

Table 4: Effect of Nasya on visual acuity in the group of 15 patients (30 eyes) of Timira (simple myopia)

| | Number of patients | Mean | Mean ± SE | Percentage (%) | SD | 't' | P value |
|----|--------------------|-------|------------------|----------------|------|------|---------|
| | | BT | AT | | | | |
| RE | 15 | 33.13 | 38.7 5.56 ± 2.03 | 16.80 | 7.90 | 2.73 | < 0.05 |
| LE | 15 | 36.93 | 42.0 5.07 ± 2.09 | 13.72 | 8.10 | 2.42 | < 0.05 |

BT - Before treatment, AT - After treatment, SE - Standard error, SD - Standard deviation, RE - Right eye, LE - Left eye.

Table 5: Effect of Nasya followed by Vidha karma on the visual acuity in the group of 15 patients (30 eyes) of Timira (simple myopia)

| | Number of patients | Mean | Mean ± SE | Percentage (%) | SD | 't' | P value |
|----|--------------------|------|-------------------|----------------|-------|------|---------|
| | | BT | AT | | | | |
| RE | 15 | 23.6 | 28.3 6.37 ± 2.59 | 26.98 | 10.03 | 2.46 | < 0.05 |
| LE | 15 | 29.7 | 36.63 6.93 ± 2.55 | 23.34 | 9.88 | 2.71 | < 0.05 |

BT - Before treatment, AT - After treatment, SE - Standard error, SD - Standard deviation, RE - Right eye, LE - Left eye.

Table 6: Effect of Nasya on the dioptric power in the group of 15 patients (30 eyes) of Timira (simple myopia)

| | Number of patients | Mean | Mean ± SE | Percentage (%) | SD | 't' | P value |
|----|--------------------|------|------------------|----------------|------|------|---------|
| | | BT | AT | | | | |
| RE | 15 | 2.13 | 1.75 0.38 ± 0.07 | 17.97 | 0.28 | 5.36 | < 0.001 |
| LE | 15 | 1.95 | 1.63 0.28 ± 0.06 | 14.53 | 0.24 | 4.43 | < 0.001 |

BT - Before treatment, AT - After treatment, SE - Standard error, SD - Standard deviation, RE - Right eye, LE - Left eye.

Table 7: Effect of Nasya followed by Vidha karma on the dioptric power in the group of 15 patients (30 eyes) of Timira (simple myopia)

| | Number of patients | Mean | Mean ± SE | Percentage (%) | SD | 't' | P value |
|----|--------------------|-------|-------------------|----------------|------|-------|---------|
| | | BT | AT | | | | |
| RE | 15 | 02.48 | 01.88 0.6 ± 1.27 | 24.16 | 4.92 | 02.22 | < 0.05 |
| LE | 15 | 02.18 | 01.62 0.57 ± 0.14 | 25.95 | 5.09 | 02.25 | < 0.05 |

BT - Before treatment, AT - After treatment, SE - Standard error, SD - Standard deviation, RE - Right eye, LE - Left eye.

Table 8: Overall effect of therapies on 30 patients (60 eyes) of Timira (simple myopia)

| Overall effect | Group A | | Group B | |
|----------------------|----------------|----------------|----------------|----------------|
| | Number of eyes | Percentage (%) | Number of eyes | Percentage (%) |
| Cured | 0 | 0 | 0 | 0 |
| Marked improvement | 0 | 0 | 0 | 0 |
| Moderate improvement | 06 | 20 | 10 | 33.33 |
| Mild improvement | 20 | 66.67 | 18 | 60 |
| Unchanged | 04 | 13.33 | 02 | 06.67 |

Follow-Up Study: The effect of the therapies was compared before and after the treatment based on the self-formulated scoring scale to signs and symptoms in subjective parameters.

DISCUSSION

Myopia, the most common refractive defect, can be linked to some of the clinical symptoms of Timira. The clinical feature of prathama patalagat Timira (avyakta darshana or blurring of vision for distance) resembles simple myopia. When the vitiated doshas achieve urdhwagamitva and reach the second patala of the eye, it is characterised by vihwala darshana. This symptom represents the visual disturbance resulting from simple myopia.

In the present study, all the patients were from the college-going age group (18-25 years), having used digital devices, laptops and computers for longer, which could be the leading cause of myopia progression.

In group A, a complete cure from the symptoms was not observed (0%). However, moderate relief was observed in six eyes (20%). Mild relief was observed in 20 eyes (66.67%) and no relief in four eyes (13.33%).

In group B, complete relief was not observed in any eye. Moderate relief was observed in 10 eyes (33.33%), mild relief was observed in 18 eyes (60%), and no relief was observed in two eyes (6.67%).

Mode of action of drugs

The properties of Shrungaveradi taila are vyavayi, vikashi, sara and tridosha shamaka. When used for Nasya, it enters the nasal mucosa and thus all the minute channels (srotas) associated with it¹⁵. Almost all Ayurvedic scholars referred to Tila taila as Vata-Kaphahara and Pittavardhaka. However, due to sanskaranuvartana guna, it loses its intrinsic property (ushna) when processed with sheeta virya drugs like Yashtimadhu. Abhyanga and swedana are performed in murdha pradasha before Nasya with Shrungaveradi oil. It boosts shleshma secretion through the channels, which is vitiated; thus, vitiated Kapha and Vata dosha get pacified.

Due to katu, tikta rasa, and ushna veerya properties of Shrungaveradi and Punarnava, Shrungaveradi oil reaches the srotasa around the nose, thereby reducing ama as well as vitiated Vata and Kapha dosha. Yashtimadhu has chakshushya, Vata and Pitta-shaman properties, So the overall effect of Nasya is tridosha shamaka and chakshushya on myopia patients in this pilot study.

According to samanya samprapti of Netraroga vikara, vitiated doshas are taken out in an upward direction (urdhwajatrugat) with the help of siras, resulting in localised dosha dushti, which eventually leads to Timira. snehana and asraviravana are an integral part of samanya chikitsa of Timira¹⁶. Suchi is one of the shastras that can be used for Viddha karma and Raktavisravana¹⁸. So, considering Viddha karma as a type of Raktamokshana chikitsa, it is an additional therapy. The points or Viddha karma sthana "apanga, lalata and upanasika" were used per the description given in Sushruta Samhita⁹.

Viddha karma's bloodletting disrupts the avarana and sanga of the Vata-Kapha dosha and channels the doshas into a samyaka state, resulting in Timira's samprapti bhanga. As a result, the overall impact of Nasya and Viddha karma is tridosha shamaka, which disintegrates the etiology of Timira, which manifests as tridoshaja.

CONCLUSION

In group B, Nasya, followed by Viddha karma, was more effective in treating primary complaints such as durastha avyakta darshana, vihwala darshana, netrayasa, and shirobhitapa. Even if no clinical refraction was noticed in a few patients, total vision clarity was improved, and asthenopia symptoms, such as netrayasa shirobhitapa, were significantly reduced.

According to our findings, Nasya and Viddha karma treatment can help people with mild and/or moderate myopia. In treating myopia, Viddha karma, in combination with Nasya, appears to be more effective than Nasya alone, but we still don't have conclusive explanations for the underpinning mechanisms of needle and thermal stimulation on myopia from a neurophysiological standpoint.

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Cite this article as:

Nutan Ravindra Radaye, Priyanka Patil and Hari Umale. Role of Shrungaveradi taila Nasya and Viddha karma in the management of Timira (simple myopia): A Pilot Study. *Int. J. Res. Ayurveda Pharm.* 2023;14(4):25-29

DOI: <http://dx.doi.org/10.7897/2277-4343.1404106>

Source of support: Nil, Conflict of interest: None Declared

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