



Ayurveda

AN EVALUATION OF DRISHTI PRASADANA PROPERTY OF PADATALAABHYANGA WITH MAHATRIPHALADI GHRITA IN TIMIRA WITH SPECIAL REFERENCE TO MYOPIA

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ABSTRACT

Myopia, one of the refractive error also known as short sightedness is that dioptric condition of the eye in which, with the accommodation at rest, incident parallel rays comes to a focus anterior to the light sensitive layer of the retina. Majority of the cases results as variants in the frequency curve of axial length and curvature. Although curvature myopia occurs commonly as a factor in Astigmatism, the former is more common. Verily speaking *Shalaky Tantra* provides principally the science of sight and also explores the disorders of the organ with minute details as well loss of vision, let it be partial or complete has been described vividly under *Drishhti roga* (diseases of Drishti) and one among these *roga* (diseases) is "TIMIRA" which possesses great threat to the vision. The disease *Timira* starts with the disturbances for the distant vision, which may ultimately destroy the eye sight completely. The study of *Sushruta Samhita Uttara Tantra* reveals that there is one group of eye diseases, which are responsible for visual impairment. The number of the diseases of this group comprises twelve. Amongst these twelve diseases, all the six varieties of the disease *Timira* is the most serious as it ultimately leads to loss of vision. Keeping this point in view, *Acharya Vagbhata* has warned over-looking this disease in early stage. The very fact is that this subject is being studied from the days of *Acharya Sushruta* to date denotes its magnitude. In the entire scope of *Shalaky Tantra* – the science of ophthalmology revolves round *drishti* – the vision. In fact patho-physiology of loss of vision takes its initiation from the stage of *Timira*. The spectacles, which are used to correct the refractive errors neither cures nor checks the progression of pathology. The need to wear them all the time creates the multitude of inconveniences. Spectacles have to be changed with the change in refraction, also the chances of ocular accidents may increase with glasses. Thus in short it can be said that no medicine is yet invented to preserve the eyesight of those unfortunate adolescents affected with myopia. Therefore a scope is there for further studies to evolve a new remedy from Indian medicine. This study aims to provide an cost effective therapy which is easy to be done. So *Padaabhyanga* (foot massage) has been selected which is suggested by many Acharya. The medicine selected for the study is *Mahatriphaladi Ghrita*.

KEYWORDS : *Timira, Myopia, Padaabhyanga, Mahatriphaladi Ghrita.*

INTRODUCTION:

Timira is described as a serious visual disorder and has been laid maximum emphasis. *Timira* meaning darkness is suggestive of the end fate of the problem i.e. blindness, if not managed in time or properly. This a progressive condition passing through three phases before leading to blindness. These phases are *Timira-Kacha-Linganasha*. In Ayurveda, clinical features related to visual disturbances are seen only in *Drishtigata Roga*. Hence, all the cases of visual disturbances can be correlated under the broad umbrella of *Timira - Kacha - Linganasha* complex. The part of clinical feature of *Timira* (1st and 2nd *Patala*) can be correlated to myopia. Some believes it to be a disease with the involvement of upto 3rd *Patala*. This view is not accepted by all. When the vitiated *Dosha* are located in the 1st *Patala* (layer of eyeball), there is a complaint of difficulty in seeing objects distinctly. This is a common complaint of all the refractive errors. So, *Timira* involving the 1st *Patala* can be compared with refractive errors easily. When the vitiated *Dosha* are situated in the 2nd *Patala*, the patient complains of confused visual perceptions and appearance of bees, flies, hairs etc. in front of the eyes. These symptoms are also seen in high myopia, where degenerative changes are common. When vitiated *Dosha* get localized in 3rd *Patala*, the patient has complaint of disturbances in the field of vision, pupillary leucokoria, diplopia etc. These are the symptoms which can be correlated with cuneiform cataract, glaucoma, retinitis pigmentosa and other conditions affecting field of vision. Hence, we can say that myopia is a disease involving 1st and 2nd *Patala*.

Modern counterpart doesn't have any means to prevent the disease or to check its progression whereas in Ayurveda, there is the concept of *Chakshushya* (beneficial for vision) drugs and food items. Also, some life style changes and some therapeutic procedures have been mentioned which improve or enhance the visual acuity as well as improve the overall health of the eye.

Local therapeutic procedures for eye have been grouped under the roof of *Kriyakalpas* by our *Acharyas* and among them; *Akshi - Tarpana* is the foremost procedure for *Timira* which provides *Vatashamaka* effect to the eyes along with providing nourishment (*Tarpana*). But those are

time consuming and practically difficult to be followed in daily schedule. So our *Acharyas* emphasised the concept of *Dinacharya* (daily regimen).

Everyone who wants to live long and healthy should follow these regimen, which are mentioned in Ayurvedic old classical texts. By following these rules, one can maintain his health and can prevent the diseases. *Abhyanga* (Oil massage) is the one important procedure among that which is meant to nourish almost all parts of the body. According to Ayurveda, a man should apply (or massage) *Sneha* (oil or ghee) daily all over the body. If not atleast oil should be applied and massaged over *shiras* (Head), *Shravana* (Ear) and *Pada* (feet).

Almost all the diseases of *Vata* can be relieved by the use of *Abhyanga*. So *Timira* one of the *Vataja nanatmaja vikara* can be relieved by the use of *Abhyanga* especially with *Padabhyanga*.

MATERIALS AND METHODS:

Research Design : Open Clinical Trial.

Source population

Source population was 15-35 years age individuals of both gender were selected from the Shalaky Tantra OPD, Parul Ayurveda Hospital, Waghodia Taluk, Limda post, Vadodara, Gujarat.

Place of work

Shalaky Tantra OPD – Parul Ayurveda Hospital, Waghodia Taluk, Limda Post, Vadodara, Gujarat.

Inclusion criteria

Patients with the clinical diagnosis of *Timira* and myopia from 15 years to 35 years age.

Exclusion Criteria

- Any de-generational changes in the Retina, Cataract and pterygium.
- Patients with power more than -5D.
- Any Systemic disease which may interrupt with the procedure.

- Patient with congenital Myopia.

METHODOLOGY

- 30 patients were selected for the study based on the *lakshana of Timira* as per *samhita* without considering their gender, religion and socio-economic status.
- Detailed case history was taken with the help of specially designed Case proforma.
- Consent was taken in a written consent form after explaining about the study and its procedures, prior to the study.
- The findings of each patient was observed and noted in the case proforma.
- Collection of all the data were noted and presented in tabular forms and bar diagrams.
- Suitable statistical tests were used to know the statistical significance.

Criteria for assessment:

1. Subjective parameters

- *Ayyaktaroopa darshana* (Blurring of vision)
- *Netra ayasa* (Eye strain)
- *Srava* (Excessive watering)
- *Vihwala darshana* (Diplopia)
- *Shirashoola* (Headache)

2. Objective parameters

- Improvement in the Dioptric power of the eye using Retinoscopy
- Improvement in DVA using Snellen's chart

Intervention:-

- Sample size – 30
- Medicine – *Mahatriphaladi Ghrita*
- Dose – Approx. 20 ml for both the feet
- Duration – 48 days (5min/foot/day)
- Mode of Administration – *Padatalaabhayanga* (foot massage)

Statistical Design:

Paired t-test for objective parameters and fried-man test for subjective parameters

Overall assessments:

- Conclusion written on the basis of results obtained after checking the significance statistically.

Observation and results:

Distribution of patients based on spectacle use

Among the 30 Patients, 25 Patients (i.e. 83.3%) were using spectacles previously and 5 Patients (i.e. 16.7%) were not using spectacles previously (Tab-1).

Among the 25 spectacle users, 13 Patients (43.3%) were using spectacles more than 1 year and less than 5 years, 10 Patients (33.3%) were using spectacles between 6-10 years and 2 Patients (6.7%) were using spectacles between 11-15 years (Tab-2).

Objective criteria:

DVA (Distant Visual Acuity) Rt. Eye : Among the 30 Patients, 18 patients were in Grade-2 before the trial and 12 patients were in Grade-3. After the trial 1 patient got some improvement and came to grade-1, 17 patients were in grade-2 and 12 patients were in grade-3.

DVA Lt. Eye : Among the 30 Patients, 1 Patient was categorised under grade-1, 18 patients under grade-2, 9 Patients under Grade-3 and 2 Patients under Grade-5 before the trial. After the trial, 1 patient was under Grade- 1, 20 Patients were categorized under Grade-2, 7 patients were categorized under Grade-3 and 2 Patients were under Grade-5.

Spherical Concave lens Rt. Eye: The Patients having the Spherical Concave lens were categorized according to the power of the lens and the data is presented in % before and after the trial. About 3.3% of the patients were not having Spherical concave lens, 16.7% patients were having 0.5D of Spherical concave lens, 16.7% of the patients were having 0.75D power, 20% of the patients were having 1.00D power, 6.7% of the patients were having 1.25D power, 3.3% patients were having 1.75D power, 13.3% patients were having 2.00D power, 10% of the patients were having 2.50D power, 3.3% of the patients were having 2.75D power and 6.7% of the patients were having 3.25D power before the trial. After completing the trial, 6.7% of the patients were not having any spherical concave lens, 10% of the patients were

having 0.50D power, 16.7% of the patients were having 0.75D power, 20% of the patients were having 1.00D power, 10% of the patients were having 1.25D power, 3.3% of the patients were having 1.75D power, 13.3% of the patients were having 2.00D power, 10% of the patients were having 2.50D power, 3.3% of the patients were having 2.75D power and 6.7% of the patients were having 3.25D power in the right eye.

Cylindrical Concave lens Rt. Eye: The Patients having Cylindrical Concave lens were categorized according to the power of the lens and the data is presented in % before and after the trial. About 56.7% of the patients were not having Cylindrical concave lens, 3.3% of the patients were having 0.25D of Cylindrical concave lens, 16.7% of the patients were having 0.50D power, 10% of the patients were having 0.75D power, 3.3% of the patients were having 1.00D power, 3.3% patients were having 1.25D power, 3.3% patients were having 2.00D power, 3.3% of the patients were having 2.75D power in the right eye before the trial. After completing the trial, 63.3% of the patients were not having any Cylindrical concave lens, 16.7% of the patients were having 0.50D power, 3.3% of the patients were having 0.75D power, 3.3% of the patients were having 1.00D power, 6.7% of the patients were having 1.25D power, 3.3% of the patients were having 2.00D power, 3.3% of the patients were having 2.75D power in the right eye. There was no patient in the category of 0.25D power after the trial.

Spherical concave lens Lt. Eye: The Patients having the Spherical Concave lens in the left eye were categorized according to the power of the lens and the data is presented in % before and after the trial. About 3.3% of the patients were not having Spherical concave lens, 13.3% patients were having 0.5D of Spherical concave lens, 16.7% of the patients were having 0.75D power, 13.3% of the patients were having 1.00D power, 3.3% of the patients were having 1.25D power, 3.3% patients were having 1.50D power, 3.3% patients were having 1.75D power, 10% of the patients were having 2.00D power, 23.3% of the patients were having 2.25D power and 3.3% of the patients were having 2.50D, 3.3% of the patients were having 2.75D power and 3.3% of the patients were having 3.00D power before the trial. After completing the trial, 3.3% of the patients were not having any spherical concave lens, 16.7% of the patients were having 0.50D power, 13.3% of the patients were having 0.75D power, 13.3% of the patients were having 1.00D power, 3.3% of the patients were having 1.25D power, 3.3% of the patients were having 1.50D power, 3.3% of the patients were having 1.75D of power, 13.3% of the patients were having 2.00D power, 20% of the patients were having 2.25D power and 6.7% of the patients were having 2.50D power, 3.3% of the patients were having 2.75D power in the right eye. There was no patient who has 3.00D Spherical power in the left eye after the trial.

Cylindrical concave lens Lt. Eye: The Patients having Cylindrical Concave lens in the left eye were categorized according to the power of the lens and the data is presented in % before and after the trial. About 53.3% of the patients were not having Cylindrical concave lens, 16.7% of the patients were having 0.50D of Cylindrical concave lens, 10% of the patients were having 0.75D power, 10% of the patients were having 1.00D power, 6.7% patients were having 1.75D power, 3.3% patients were having 3.00D power before the trial. After completing the trial, 56.7% of the patients were not having any Cylindrical concave lens, 13.3% of the patients were having 0.50D power, 13.3% of the patients were having 0.75D power, 6.7% of the patients were having 1.00D power, 3.3% of the patients were having 1.50D power, 3.3% of the patients were having 1.75D power, 3.3% of the patients were having 3.00D power in the left eye. There was no patient in the category of 1.50D power before the trial.

Subjective Criteria:

Ayyaktaroopa darshana (blurring of vision):

All the 30 patients were suffering from *Ayyaktaroopadarshana* with varying grades. Among them 3.3% of the patients were having grade-1, 76.7% of the patients were having grade-2 and 20% of the patients were having grade-3 before starting the treatment. After the completion of the treatment, 16.7% of the patients were relieved completely, 26.7% of the patients were having grade-1 and 56.7% of the patients were having grade-2 and there were no patient left out in grade-3 category.

Netrayasa (Eye strain):

It was observed that 53.3% among the 30 patients were not having the complaint of eyestrain and 46.7% of the patients were suffering from *Netrayasa* with variable grades before the treatment. Among them

3.3% of the patients were having grade-1 eyestrain, 36.7% of the patients were having grade-2 eyestrain and 6.7% of the patients were having grade-3 eyestrain. After the completion of treatment, it was observed that almost all the patients got relieved from eyestrain i.e. 90% of the patients completely relieved, 6.7% of the patients were having grade-1 eyestrain and 3.3% of the patients were having grade-2 eyestrain. No patients were having grade-3 eyestrain after the completion of the treatment.

Ashru srava (Excessive watering):

Before the treatment, it was observed that only few patients i.e. 30% were having grade-1 Ashru srava. And after the completion of the

Statistical analysis:

Statistical analysis for subjective parameters by Friedman test

Symptoms	Average		Difference (d)	% of difference (%d)	X ²	Df	p-value	Remarks
	BT	AT						
Avyaktaroopa darshana	1.82	1.18	0.64	35.16	19.0	1	0.001	S
Netraayasa	1.73	1.27	0.46	26.58	14.0	1	0.001	S
Ashru Srava	1.65	1.35	0.30	16.94	9.00	1	0.003	S
Shirashoola	1.77	1.23	0.54	30.50	16.0	1	0.00001	S

Statistical analysis for Objective parameters by Paired t-test

Parameters	Average		Difference	% of difference	S.D	S.E	T-value	p-value	Remarks
	BT	AT							
DVA Rt. Eye	3.96	3.86	0.10	2.50	1.07	0.19	19.715	0.01	S
DVA Lt. Eye	4.23	4.10	0.13	3.07	1.86	0.34	12.051	0.01	S
Sph. Rt. Eye	5.50	5.53	-0.03	-0.54	3.58	0.65	8.445	0.01	S
Cyl. Rt. Eye	1.60	1.53	0.07	4.3	2.68	0.49	3.125	0.04	S
Sph. Lt. Eye	5.90	5.76	0.14	2.3	3.19	0.58	9.897	0.01	S
Cyl. Lt. Eye	1.90	1.76	0.14	7.30	2.75	0.50	3.518	0.01	S

RESULT:

Avyaktaroopadarshana (Blurring of vision)- p-value is 0.01 which is statistically significant.

Netraayasa (Eye strain) - p-value is 0.001 which is statistically significant.

AshruSrava (Excessive Watering) - p-value is 0.003 which is statistically significant.

Shirashoola (Headache) - p-value is 0.0001 which is statistically significant.

Distant Visual acuity Rt. eye- p-value is less than 0.01 which is statistically significant.

Distant Visual acuity Lt. eye- p-value is less than 0.01 which is statistically significant.

Spherical Lens Rt. eye- p-value is less than 0.01 which is statistically significant.

Cylindrical Lens Rt. eye- p-value is 0.04 which is statistically significant.

Spherical Lens Lt. eye- p-value is less than 0.01 which is statistically significant.

Cylindrical Lens Lt. eye- p-value is less than 0.01 which is statistically significant.

DISCUSSION:

The discussion part is divided based on various parts of the study such as

1. Topic selection
2. Selection of medicine
3. Probable mode of action of the procedure
4. Observation and results.

DISCUSSION ON SELECTION OF THE TOPIC :-

In the current era of technological development, there is an increasing rate of diseases especially those which affect the day to day routine. Among that, *Timira* (Myopia) is one disease which affects almost 6.9% - 19.7% of the total population of India. Many researches has already been done on *Timira* with various therapeutic methods such as *Tarpana*, *Anjana* and parentral medicines. In this clinical study we chose to assess the *Drishhti Prasadana* property of *Padaabhyanga*

treatment all of them were relieved.

Shirashoola (Headache):

It was observed that 43.3% among the 30 patients were not suffering from headache, 6.7% of the patients were having grade-1 headache, 40% of the patients were having grade-2 headache, 10% of the patients were having grade-3 headache before starting the treatment. After the completion of the treatment 93.3% of the patients were categorized under grade-0, 3.3% of the patients were having grade-1 headache, 3.3% of the patients were having grade-2 headache. There were no patients who has grade-3 headache after the treatment.

specifically in the context of *Timira*. The term *Drishhti* here refers to the physiological aspect of the eye and the term *Prasadana* means clear or clarity. So *Drishhti Prasadana* in this study is taken as bringing in clarity of the vision. The procedure is not mentioned only in the context of *Dinacharya* (daily routine) but also in the *Sarvanetraroga Pratishedhaadhyaya* in *Ashtanga Hrudaya*. By this, it is understood that *Padaabhyanga* procedure is having its own position to achieve the clarity in vision. As per the classics there are many procedures and medicines which are used topically and having direct action on the eyes. The procedure *Padaabhyanga* is reliable and easy to do and its not time consuming. Also it is having many other benefits like good for the maintenance of the texture of the skin in the soles, sleep inducing and mind relaxing.

DISCUSSION ON SELECTION OF MEDICINE :-

The medicine *Mahatriphaladi Ghrita* has been told in the *Timira pratishedha adhyaya* of *Ashtanga hrudaya*. Because of its *anushna guna*, it is selected to be used for *Padaabhyanga* as our eyes are having the property *Sheetasatmyamnrunaamand Visheshaat shleshmatobhayam*.

Triphala is the main ingredient of this medicine which is included in *Chakshushya varga* by *Acharya Sharngadhara* and *Yogaratanakara*. *Go Ghrita* (cow's ghee) is having *Amushna guna* which is ideal to be used in the eyes. And when it is processed with any medicine or drug it increases the qualities of those drugs. And also *Ghrita* is a *Rasayana* (rejuvenator) so it is selected as a dosage form for the *Prasadana karma* of the *Drishhti*. *Ghrita* having the *Vataghna* and *Pittaghna* property is helpful to achieve a positive effect in correcting *Timira* as it is one among the *Vataja Nanatmaja Vikara*.

Aja Ksheera (Goat's milk) is also an ingredient of *Mahatriphaladi ghrita*. However its therapeutic effect in the context of the present clinical study is yet to be explored.

Discussion on the probable mode of action of procedure:

Actually there are no available references in the modern science to establish the absorption of the medicine from the foot which nourishes the eye or clarifies the vision. (Hence) it is not possible to explain the probable mode of action as per the contemporary science. Though it is not possible to explain the specific mode of action of our treatment module as per the contemporary science, following is a humble attempt to reach to a justification for the same:

Anatomically we cannot find any specific vessel which connects the foot and eye, as per the modern science, however the foot has a very

rich nerve anastomoses and neurovascular bundles which when stimulated will benefit the body as a whole thereby it will have its impact on the eyes too thereby giving relief from the symptoms of *Timira* also.

As per Ayurvedic literatures, it is clearly told that there exists two *sira* from the middle of the foot to the respective eye which when induced by the procedures such as *Udvardana*, *Lepa*, *Abhyanga* will benefit the eye. The action and properties of the medicine will be brought to the eyes through the *Sira* present in the respective foot.

Furthermore, *Acharya Gorakshanathin Goraksha Samhita* named both of the nadi as *Hastijihwa nadi* (right foot to right eye) and *Gandhari Nadi* (left foot to left eye).

Apart from *Padaabhyanga*, there are some other references which further supports the relation between the foot and eye, they are the references of *Padatradharana* (wearing slippers) and *Pada prakshalana* (washing the feet).

Pada has 5 *marma* in total such as *Talahrudaya*, *Gulpha*, *Kshipra*, *Kurcha* and *Kurchashiras*. All are having control over the eye in one or other way.

DISCUSSION ON OBSERVATION AND RESULTS :-

Subjective aspect

Apyakta roopa darshana - p-value is 0.01 which is statistically significant.

This is due to the *Prasadana karma* of the procedure. The term *Prasadana* itself should be understood by the *Prasannata* of the *Drishhti* (i.e. clarity of the vision). Also *Acharya Vagbhata* opines that the effect of the medicine which is administered by *Udvardana*, *Lepa*, *Abhyanga* of the foot will be transferred to the eyes through two *sira* (blood vessels) which is present in the middle of both the foot.

Eye strain- p-value is 0.001 which is statistically significant.

As *Timira* is one among the *Vataja Nanatmaja Vikara*, will be presented by some of the *Vata vruddhi lakshana*. Here the medicine prescribed for the condition is *Tridosha shamaka*, *Rasyana* and moreover it is a *Sneha dravya* (unctuous substance). It is already known that the prime treatment prescribed for *Vata vruddhi* is *Snehana* (*Abhyanga*).

Excessive Watering- p-value is 0.003(<0.005) which is statistically significant.

Here the medicine prescribed for the condition is having *Tikta pradhana madhura kashaya rasa* and the main ingredient itself is *Triphala*. Both *Tikta rasa* and *Triphala* is known to have *Kleda shoshana karmas* it is useful in drying up the excess watering from the eyes.

Head ache- p-value is 0.0001 which is statistically significant. Again *Vata Prakopa* symptom will be reduced by the *Snehana karma*.

Objective aspect

Visual acuity Rt eye- p-value is less than 0.01 which is statistically significant.

Visual acuity Lt eye- p-value is less than 0.01 which is statistically significant.

Spherical Lens Rt eye- p-value is less than 0.01 which is statistically significant.

Cylindrical Lens Rt eye- p-value is 0.04 which is statistically significant.

Spherical Lens Lt eye- p-value is less than 0.01 which is statistically significant.

Cylindrical Lens Lt eye- p-value is less than 0.01 which is statistically significant.

Although these parameters shows significance statistically, these are not appreciated in the practical point of view. Because the number of

patient whose dioptric power reduced were only 2 and that too a reduction of 0.25 D was achieved which is a negligible improvement in the point of ophthalmology.

However to justify the above results, it is to be understood that the procedure and the medicine works on the *Netra Poshaka Nadi* which gets nourished thereby helped in reducing the dioptric power of the patient.

Many alternative medicines like Acupuncture, Acupressure and Marma therapy are having the same concept. All these will enrich the health of humans when integrated.

CONCLUSION:

- The term *Drishhti Prasadana* as per the *Samhita* is taken as the clarity of vision, by which one can see the images clearly.
- There is no exact anatomical relation between *Netra* and *Pada* as per modern science. The probable connection can be done on the basis of the rich nervous anastomoses as well as neurovascular bundles of the foot and embryological origin of *Pada* (*foot*) and *Netra* (*Eyes*).
- Myopia is correlated with *Timira* on the basis of symptoms among which only blurring of vision is available for *Timira*, rest of the things were seen in the *Samanya Netra roga Poorvarupa*.
- Thus after observing all the parameters, it is concluded that *Padatradharana* is having the effect of *Drishtiprasadana* in *Timira* with special reference to Myopia.
- The study is rejecting the null hypothesis and accepting alternate hypothesis.

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