



## Research Article

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### COMPARATIVE STUDY TO EVALUATE THE EFFECT OF TAILADHARA AND JALADHARA IN THE MANAGEMENT OF VATIKA SHIRASHOOLA WITH SPECIAL REFERENCE TO CHRONIC DAILY HEADACHE

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#### ABSTRACT

The present clinical trial was conducted to evaluate the effect of shirodhara in the management of vatika shirashoola with special reference to chronic daily headache. The subjects were randomly divided into two groups, tailadhara group (TD) and jaladhara group (JD). Forty patients were selected for the study out of which thirty-six (eighteen in each group) completed the trial. The effect of therapy was assessed on the basis of relief found in chief complaints. Specialized rating scales like VAS (visual analog scale), HARS (Hamilton anxiety rating scale), HDRS (Hamilton depression rating scale) were adopted to evaluate the effect of therapy. Result obtained was highly significant, being a little better in TD as compared to JD. No adverse effects were found in any of the subjects during the trial and in the follow up as well. The study revealed that shirodhara therapy plays a vital role in management of shirashoola.

**Keywords:** Chronic daily headache, jaladhara, tailadhara, vatika shirashoola, VAS, HARS, HDRS

#### INTRODUCTION

Diseases are the destroyers of health and manifest themselves as a hindrance in leading a happy and healthy life. Day to day stress at work and home, irregular food habits, suppression of natural urges, lack of proper sleep and less time for relaxation being part of our life, enhance the incidences of many diseases, mainly the diseases having psychosomatic origin. Chronic daily headache (CDH) is one amongst such disorders. It is a primary headache which occurs daily or almost daily for at least fifteen days a month.

Majority of the drugs employed in modern medicine for this disease are almost limited to suppress the symptoms. Long term use of such drugs is found to cause serious side effects like memory loss, gastro-intestinal disorders, weight gain. All experiences in the past in headache management have gradually revealed that only drug approach of management probably is not the right approach. Therefore, there is a wide scope of research to find out the safest remedy or non-pharmacological approach from ayurveda for the management of this disease.

Ayurveda considers shira as one of the three vital organs of the body where the prana resides. Charaka has considered shira as uttamanga<sup>1</sup> and compared it with the sun. Charaka explains that all the sense organs and the channels carrying the sensory and vital impulses from the Shira are like the rays from the sun<sup>2</sup>, if any insult occurs to the vital organ, it soon overtakes the entire body. Hence like other vital centers viz. Hridaya (heart) and Vasti (Urinary Bladder) it must be protected from external injury and internal morbidity of Vata and other humors<sup>3</sup>.

CDH can be compared with Vatika Shirashoola described in Ayurvedic texts. Its clinical features are Shankhanistoda (Bitemporal headache), Ghatasambheda (Pain in occipital region), Bhrumadhya Lalatam ç taptivivedanam (Pain and

Burning sensation in forehead), Akshinishkasanvat Pida (pain as eyes were to come out), Shiroghurnanam (Giddiness), Shrotrabaadhyta<sup>4</sup> (Pain in ears and phonophobia)

Acharya Vagbhata described four types of Murdha Taila<sup>5</sup>, which includes Abhyanga, Seka, Pichhu and Basti. Seka here means Shiro-Parisheka, which is also known as shirodhara. It has been indicated in the local diseases of the skull like Arunshika, Shirahtoda, Daha, Paka and Vrana. The perusal of the Ayurvedic text reveals that it has also been indicated in Shirashoola<sup>6</sup>, Shankhaka<sup>7</sup>, Suryavarta<sup>8</sup>. Considering all such things the present study was selected.

#### Aims and objectives

- To compare the effect of Tailadhara and Jaladhara in its management of Vatika Shirashoola.
- To assess the probable mode of action of Shirodhara (procedural effect as well as drug effect)

#### MATERIALS AND METHODS

**Selection of Subject:** Forty patients were randomly selected irrespective of their age, sex and religion from OPD and IPD of Shalaky Tantra Vibhaga of the institution and divided into Tailadhara group (TD) and Jaladhara group (JD).

#### Inclusion Criterion

- Daily or almost daily chronic headache presenting with painful exacerbations of migraine type.
- Average headache frequency >15days/month (>3days/week) for more than 6 months' duration.
- Overuse of analgesics or other symptomatic or prophylactic drugs.

- History of intermittent headache which had evolved into the current daily head pain.
- Patients having mixed features of migraine or chronic tension type headache.
- Age group (20- 60 years).
- Willingness to be treated with an Ayurvedic regimen.

#### Exclusion Criterion

- Secondary headaches arising due to any other pathological conditions.
- Headaches arising due to meningitis, encephalitis, hypertension, sinusitis, psychosis, neurological disorders etc.
- The patients having a positive history of head Injury.
- The patients already being diagnosed or suspected of increased intracranial pressure.
- Hypoglycemic patients were also excluded.
- Pathological conditions occurring in Eye, ENT and Dental.

#### Laboratory Analysis

Following laboratory investigations were done on all the patients before starting the trial to rule out any other illness if present and to exclude them from the trial:

Blood: Haemoglobin, Total leukocyte count, Differential leukocyte count, Erythrocyte sedimentation rate  
 Biochemical examination: Fasting blood sugar  
 Urine: Routine and microscopic examination

#### Method of study

**IEC Clearance and Consent:** Approval from the Institutional Ethics Committee (IEC) was taken prior to the beginning of this study vide No. 27/2012. Written & informed consent of the patients was taken before their registration for the study.

**Patient Information Sheet and Proforma:** All the patients were given an information sheet stating all the details of the study protocol, benefits of the trial & any expected side effects. A clinical research proforma was specifically designed to note down all the details of the patients and their disease regarding this study.

**Preparation and Administration of Drug:** The drug “Murchhit til taila” was selected by virtue of its vata-kapha-shamaka<sup>9</sup> properties. It was meant for local application (Shirodhara) in the management of vatika shirashoola.

**Method of Preparation:** The drug was manufactured by Charaka Ayurvedic pharmacy, Paprola. Murchhit til taila was prepared after taking all the raw drugs in the prescribed quantity as told in text books<sup>10</sup>.

**Administration of Drug, Duration & Dosage:** Shirodhara was performed on patients of TD group with lukewarm taila (the temperature was kept approximately 38<sup>0</sup> - 40<sup>0</sup> C, which is easily tolerated and cozy to touch) and with lukewarm water on the patients of JD group for thirty minutes daily in the morning between 8am to 10am for a period of fourteen days.

After the completion of treatment, all the patients were advised to attend the outdoor patient department within one month for the follow up study.

#### Assessment

**Subjective Parameter-** Assessment was based on relief found in the signs and symptoms of the disease. For this purpose, main signs and symptoms (indicated in table no. 1) were given suitable scores according to their severity. Total two assessments (before and after treatment) were carried out. Assessment of the degree of pain was done by using visual analogue scale.

**Objective Parameter-** Psychometric tests: Hamilton anxiety rating scale, Hamilton depression rating scale

#### Overall effect of therapy

Overall effect of therapy on thirty-six patients (who completed the trial) was calculated by taking the percentage of relief, based on different criteria. The study revealed highly significant results. In TD Group and JD Group, marked improvement was observed in 50% and 38.89% cases respectively, moderate improvement in 44.44% and 38.89%, mild improvement in 5.55% and 22.22%.

## RESULT AND DISCUSSION

**Table 1: Effect of therapy on various chief complaints in 36 patients (18 in each group) of vatika shirashoola**

Sr. No.	Chief complaints	n		Percentage Relief in chief complaints		Percentage Difference	SD	SE	T	P
		TD	JD	TD	JD					
I	Shankhanistoda	18	18	85.1	74.4	10.7	0.71	0.23	2.59	<0.05
II	Ghatasambheda	18	18	75.0	61.8	13.2	1.00	0.35	0.47	>0.05
III	Bhrumadhya lalatam c̄ taptivivedanam	18	18	78.6	68.9	9.6	1.10	3.30	0.22	>0.05
IV	Shrotrabaadhyta	18	18	73.7	68.8	4.9	0.97	0.32	0.50	>0.05
V	Akshinishkasanvat Pida	18	18	79.1	64.0	15.1	0.78	0.26	0.17	>0.05
VI	Shiroghurnanam	18	18	70.0	65.0	5.0	0.80	0.27	2.06	>0.05
VII	Disturbed sleep	18	18	87.5	70.8	16.7	0.81	0.27	1.86	<0.05
VIII	Heaviness in head	18	18	82.0	69.7	12.4	0.81	0.26	1.87	>0.05

**Table 2: Effect of therapy on Severity, Frequency and Duration**

Criteria	Percentage Relief		Percentage Difference	SD	SE	T	P
	TD	JD					
Severity	77.08	69.04	8.04	0.70	0.23	1.89	>0.05
Frerquency	82.35	74.13	8.22	0.80	0.26	2.12	<0.05
Duration	80.95	73.33	7.62	0.67	0.21	4.27	<0.05

**Table 3: Effect of therapy on Hamilton anxiety rating scale and Hamilton depression rating scale**

Criteria	Percentage Relief in scale readings		Percentage Difference	SD	SE	T	P
	TD	JD					
H.A.R.S.	71.43	56.52	14.91	0.86	0.28	1.37	>0.05
H.D.R.S.	62.50	50.00	12.50	0.74	0.24	0.20	>0.05

**Table 4: Effect of therapy on Visual analogue scale of Vatika Shirashoola**

Criteria	Percentage Relief		Percentage Difference	SD	SE	T	P
	TD	JD					
V.A.S.	81.82	74.35	7.47	0.71	0.23	1.41	>0.05

**Table 5: Overall effect of therapy in Both Groups of Vatika Shirashoola**

Overall Effect	Percentage relief in TD	Percentage relief in JD
Marked Improvement	50.00	38.89
Moderate Improvement	44.44	38.89
Mild Improvement	5.55	22.22
Unchanged	0.00	0.00

**Probable mode of action of shirodhara****Procedural Effect****Percutaneous absorption of the drug**

Dhara acts by percutaneous absorption<sup>11</sup> of the medicine through the skin into the microcirculation. The therapeutic effect may be due to diffusion of the drug through the fine pores present over forehead in similar way as seen by the procedure like Abhyanga, Snana, Udvartana, Parisheka etc.

**Application of heat to the forehead skin**

Luke warm oil and water act as a vehicle to transfer heat to the skin. This local application of heat causes vasodilatation of arterioles<sup>12</sup> and the increased circulation to the concerned part further facilitates more nutrients and oxygen to the part.

**Acupressure (Reflexology)**

When a receptor is continuously stimulated with the same strength of stimulus after some time the receptor stops sending impulses through the afferent nerve. This principle<sup>13</sup> can be used to block the afferent impulses of pain. In shirodhara the duration of the therapy is thirty minutes, hence there is prolonged and continuous pressure on the forehead due to trickling of dhara drava. This continuous pressure coupled with heat of oil is thought to release body's natural pain killers; the Endorphins. The endorphins produce analgesia by action on the brain stem.

**Vibration (Psychological Effect)**

The continuous trickling of drava on the forehead sets in vibration in the cranial vault same as is done by pronunciation of the word "Om" in Hindu mythology. These vibrations have a positive stimulating effect on the CNS and create a state of relaxation<sup>14</sup>. This induces changes in the emotional states of the patients and hence normalizing the neurotransmitters serotonin, adrenaline and nor-adrenaline.

**Effect on Marma**

Sushruta has mentioned 'Sthapani Marma' between the two eyebrows. It is Vishlyaghana type of the sira marma. Its pramana<sup>15</sup> has been mentioned half finger. Amarakosha has named it as Kurcha Marma. The shirashulshamak effect of shirodhara proved by this study seems to be mediated through this sthapani or kurcha marma. Taila poured on this marma affects vasodilatation of arterioles leading to relief in pain.

**The posture in the procedure of Shirodhara**

Posture while doing the therapy also adds on to the benefits of shirodhara. While doing shirodhara patient is kept lied on

shirodhara table in supine position which itself is a relaxing posture as seen in shavasana<sup>16</sup>.

**Somatoautonomic Reflex set up by pouring of drug on forehead**

The physiologic effect of sesame oil dripped on the forehead induced by somato autonomic reflex through thermosensors or pressure sensors in the skin or hair follicles via the trigeminal cranial nerve<sup>17</sup>.

**Drug Effect**

The drug has madhura rasa, tikta, kashaya anurasa, ushna veerya and madhura vipaka<sup>18</sup>.

**Action of Rasa**

Due to snigdha, guru guna madhura rasa balances ruksha and laghu guna of vata. It also has shadindriyaprasadana<sup>19</sup> (helps in improvising the functioning of sensory organs) property. Tikta rasa has pittakaphashamaka effect<sup>20</sup>. Kashaya rasa has kaphapittashamaka effect and pacifies the vitiated dosha present in rakta dhatu<sup>21</sup>.

**Action of Guna**

Guru, snigdha guna alleviate vata dosha by inhibiting the laghu and ruksha guna of vata dosha.

**Action of Veerya**

Ushna veerya has vatashamaka effect

**Action of Vipaka**

Madhura vipaka has vatashamaka effect  
Madhura rasa and madhura vipaka nourish and give strength to rasa and rakta dhatu which are main dushya in the samprapti of vatika shirashoola.

**Local Application**

Bahya prayoga of til taila has snehana, vedanasthapanana and shirashoolaprashamaka effect, thus relieves headache by shirodhara. Moreover, Til taila is chakshushya, shiroshoolashamaka and considered best for parisheka, abhyanga, avgaaha<sup>22</sup> etc procedures.

**Pharmacological activities**

Sesame oil is an Antioxidant, having free radical scavenging activity<sup>23</sup>.

Murchhit til taila has got additional analgesic and anti-inflammatory properties by virtue of murchhan dravyas.

## CONCLUSION

The present study demonstrated that shirodhara has a potent effect in alleviating shirashoola. TD and JD both groups provided a significant improvement in the signs and symptoms of vatika shirashoola. Results obtained in TD group are slightly better than the JD group indicating that procedural effect coupled with the drug effect have an edge over a purely procedural effect. So, from the above results it is clear that the procedural effect of shirodhara forms the major component of its therapeutic effect. On the basis of the observations made in the present study it can be safely predicted that there is a substantial scope of using this ayurvedic treatment modality as a safe and effective remedy for the management of chronic daily headache. As the study was done over a small interval of time with small number of patients, so many aspects of the study might have been out of consideration. So, scope of further research in this field is still there.

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