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Effect of *Baladi Thalam* in the management of *Ardhavabhedaka* (Migraine)

Dr. Mukesh Kumar¹, Dr. Sreeja Sukusen², Dr. C. Sindhu³, Dr. Rajan Nelson Munzni⁴

¹Post Graduate Scholar, ²Associate Professor, ³Professor & HOD, Dept. of Shalaky Tantra, Govt. Ayurveda College, Tripunithura, Kerala, ⁴Ph.D. Scholar, Dept. of Panchakarma, N.I.A., Jaipur, Rajasthan, INDIA.

ABSTRACT

Almost all our ancient *Acharayas* have mentioned about the *Shiro-roga* of which *Shirah-shoola* as the main symptom and also they have taken *Shirah-shoola* as the synonym of *Shiro-roga*. All the *Acharyas* have mentioned *Ardhavabhedaka* in *Shiro-roga*. *Acharya Sushruta* has mentioned 11 types of *Shiro-roga* in *Uttar Tantra*. Among them, one of them is *Ardhavabhedaka* in which paroxysmal unilateral headache associated with vertigo and pain of varying intensity is seen. This can be correlated with Migraine. In the present era, a boom in the Alternative and Complementary systems of medicine has led to deep introspection of their utility based on scientific validation. Hence it is the need of the hour to establish a firm clinical research based scientific data for classical treatments. *Thalam* is one such treatment modality implicated for the use in *Shiroroga*. An attempt has been made in the present clinical research to assess the effect of *Baladi Thalam* in the management of Migraine (*Ardhavabhedaka*). Total 30 patients were registered. Result of the study revealed that *Baladi Thalam* therapy is effective in reducing the sign and symptoms as well as physical assessment.

Key words: *Baladi Thalam*, *Ardhavabhedaka*, Migraine.

INTRODUCTION

Migraine can be a challenging disease to diagnose because it is a clinical diagnosis based on symptoms that are subjective and verifiable only by the patient. Migraine can often be recognized by its activators like stress (psychological as well as physical) lack of sleep, worries, red wine, menses, estrogen, etc. and by its deactivators like sleep, relaxation, meditation, pregnancy, exhilaration, drugs like sumatriptan, ergotamine, magnesium sulphate, etc.

Address for correspondence:

Dr. Mukesh Kumar

Post Graduate Scholar, Dept. of Shalaky Tantra, Govt. Ayurveda College, Tripunithura, Kerala, India.

E-mail: drmukesh966@gmail.com

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According to International Headache Society, migraine is the most common neurovascular headache and is a common disabling primary headache disorder. It is now recognized as a chronic illness, not simply as headache. Migraine headache often limited the degree to which headache sufferers could engage in regular activities. In the global burden of disease survey 2010, it was ranked as the third most prevalent disorder and 7th highest specific cause of disability worldwide.^[1] The world health organization (WHO) ranks migraine among the world's most disabling medical illness. It is three times more common in women than men.

In Ayurveda migraine is found to be identical to *Ardhavabhedaka* characterized by pain in half side of head.^[2] *Vagbhata's* statement regarding *Ardhavabhedaka* runs as follows: "*Arddhetu Moordha Nahsos Arddhavabhedaka*". *Vedana* in half of the portion of the head is called *Ardhavabhedaka*. As per *Acharya Sushruta*, *Ardhavabhedaka* occur due to vitiation of *Tridosha* (*Vata Pitta Kapha*).^[3] While *Acharya Charaka* had mentioned that vitiated *Vata* /

Vata-Kapha are involved in manifestation of *Ardhavabhedaka*,^[4] while *Acharya Vagbhatta* believed that *Ardhavabhedaka* occurs due to vitiated *Vata*.^[5]

Maximum *Nidanas* show the predominance of *Vata Dosh*. *Vata* gets provoked by addiction to dry articles or excess of diet or eating on a loaded stomach. The quantity of food to be taken depends upon the power of digestion,^[6] Though even light food article, if taken in excessive quantity can produce *Agnimandhya*^[7] resulting in *Amarasa* formation which obstructs the channels and aggravates all the three *Doshas*. The other factor exposure to eastern wind leads to constriction of blood vessels due to *Sheeta Guna* of *Vata* causing headache. Similarly suppression of natural urges obstructs the movements of *Vata*. Excessive sexual indulgence produces degeneration of *Dhatus* in reverse order.^[8] Also the various types of pain like *Toda*, *Bheda*, etc. are suggestive of “*Vishama*” nature of *Vata Dosh*. Here an attempt has been made to evaluate the efficacy of *Shamana Yoga*, *Baladi Thalam* from *Yogamrita* text (*Malayalam*). Which is form of *Abhyangam* keeping this objective in mind, a clinical study is designed to assess the efficacy of *Baladi Thalam* in the management of migraine / *Ardhavabhedaka*.

AIMS AND OBJECTIVES

1. To evaluate the clinical efficacy of *Baladi Thalam* in the patient of migraine / *Ardhavabhedaka*.
2. To study the concept of *Thalam* in Ayurveda.

MATERIALS AND METHODS

30 Patients fulfilling the diagnostic criteria, attending OPD of Salakya Tantra Dept. Govt Ayurveda College & Hospital, Tripunithura, and cases referred by other departments of hospital; were selected randomly irrespective of race, caste, sex, religion etc.

Inclusion Criteria

- 1) Patients with simple and classic Migraine with frequent attacks twice or thrice in a week.
- 2) Age group 15-60 yrs.
- 3) Sex - Both male and female.

- 4) Patients fit enough to do *Abhyangam*.

Exclusion Criteria

- 1) Migraine along with other causes of headache.
- 2) Systemic diseases which restrain the patients from applying *Thalam*.
- 3) Age group less than 15yrs and more than 60yrs.

Investigations

Following investigation were carried out before and after treatment.

CBC with Hb%, Liver function test, Blood sugar fasting and pp, Lipid profile, Urine routine.

Study Design

A clinical trial to establish the effect of *Baladi Thalam* in the study of 30 patients of Migraine (*Ardhavabhedaka*) satisfying the inclusion criteria were selected for the study.

Drug, dose and duration - *Baladi Thalam*

- Form of medicine - *Paste*
- Procedure - *Thalam*
- Route and form of administration - On bregma of head in the form of paste.
- Quantity - 2-3 gm.
- Time - 10am, 5pm
- Duration of treatment - 30 minutes two times daily.
- Duration of *Thalam* - 15 days

Assessment of Therapy

Criteria for assessment

The patients were examined as per suitable scoring pattern and objective signs were recorded to assess any changes present in the patients. After completion of 15 days of *Baladi Thalam* therapy the efficacy of the therapy was assessed on the basis of the following subjective criteria.

Follow up : Follow up study was done at 15 days, 30 days and 60 days after the treatment.

Subjective criteria

Signs and symptoms of Migraine (*Ardhavabhedaka*) which are subjective in nature were used for symptomatic evaluation for which a multidimensional scoring pattern was adopted. The patients were assessed by giving a score before and after the therapy according to the severity of the symptoms; also on follow up with 15 days, 30 days and 60 days, the assessment was done to evaluate recurrence of disease or after effects of *Baladi Thalam* therapy.

Table 1: Grading of clinical features

Symptom	Grade 0	Grade 1	Grade 2	Grade 3	Grade 4
Severity of Headache	No headache.	Mild Headache, I am aware only if I pay attention to it.	Moderate Headache, I can ignore at times.	Severe Headache, I can't ignore but I can do my usual activities	Excruciating Headache, I can't do anything
Nausea or vomiting	No symptoms	Mild (can do his/her work)	Moderate (Forced to stop work)	Severe (Forced to take rest)	Excruciating (Forced to take medicine)
Photophobia & Phonophobia	No symptoms	Mild (can do his/her work)	Moderate (Forced to stop work)	Severe (Forced to take rest)	Excruciating (Forced to take medicine)
Vertigo	No symptoms	Mild (can do his/her work)	Moderate (Forced to stop work)	Severe (Forced to take rest)	Excruciating (Forced to take medicine)

All subjective parameters were analyzed during each follow up and were later scrutinized.

Statistical analysis

The information gathered on the basis of above observation was subjected to statistical analysis. The Wilcoxon's Signed-Rank Test was carried out for all non-parametric data (i.e. for subjective criteria) to analyze the effect of individual therapy in the group. The obtained results were interpreted as.

Thalam procedure

Thalam is a unique method of drug delivery, which is widely practiced, in the traditional Kerala Ayurvedic treatment. The site of application is *Murdha*, which means head more specifically, that part of the head, which corresponds to the *Bregma* anatomically. In Malayalam, the word *Thalam* literally means a shallow depression, pit, base etc.^[9] The classics of Ayurveda, even though do not make use of the word *Thalam*, considering the similarity in the method of administration of *Thalam* and that of *Shirolepam / Shiropichu* it can be implied that the procedure refers to the medicine applied over the head.^[10] Depending on *Dosha* dominance different drugs are used in *Thalam*.

- *Vata Dosha* : *Tila Taila*, *Go Ksheera*, *Navaneeta* (Butter), *ErandaTaila* (Castor Oil), *Takra* (Butter Milk), *Sthanya* (Breast Milk).
- *Pitta Dosha* : *Sthanya*, *Nalikera Ksheera*, *Navaneetha*, *Tila Taila*, *Ghrita*, *Suitable Swarasa*.
- *Kapha Dosha* : *Eranda Taila*, *Takra*, *Tila Taila*, *Suitable Swarasa*, *Nimba Taila*.
- *Sannipata Doshaavastha* : *ErandaTaila*, *Navaneetha*, *Tila Taila*.

The avoidance of *Taila* in the conditions of *Ama* and *Navaneeta* in those of the predominance of *Kapha Dosha* are worth mentioning here. However, *Taila* and *Navaneeta* are used as the medium of *Thalam*, after subjecting them to specific *Samskaras*, (processing) in order to avoid the adverse effects of fever, headache, etc.,

From these descriptions we get some clues on the preparation and application of some types of *Thalam*. However the approach to be adopted is doing all types of *Thalam* is clear.

Preparing the patient

The area of bregma can be identifying palpation over the scalp as a mild 'dipping in' from the surrounding area, in the mid-sagittal plane. The traditional methods among physicians to locate bregma is to measure two hands width (8 *Angulas*) up from the level of eyebrows with the patient's own hands. This methods is seen to surprisingly correspond to the position of bregma in the mid sagittal plane.



Fig. 1: Thalam

Application: The patient may sit comfortably in a chair. Now the physician or nurse may apply the medicine on the specified site. If it is *Thailam*, simply pour it on to the area and rub with the palm. If it is *Thailam* with *Chooranam*, *Kalka* or other similar pastes, put it in place and gently press with the fingers. It is good if the patient is capable of sitting therefore the prescribed time. But it is not compulsory. In the case of weak, bedridden patients and children, they may lie down on a bed comfortably. The applied medicine should be kept in position for the prescribed time after that it is removed and the area is wiped thoroughly with a dry cotton towel. This is followed by application of some *Chooranam* preferably *Rasnadi* or *Kachooradi* on the site. However in the general

practice the time of application of *Thalam* ranges between 45 minutes and 1 hour.

OBSERVATION AND RESULTS

When the parameter headache was assessed, it was found that after procedure participants of *Thalam* Group had the mean value 2.3, standard deviation 0.794, standard error 0.891, % improvement 10%, z value was 3.464 and p is 0.001, After first follow up *Baladi Thalam* therapy had the mean value 2.267, SD 0.785, SE 0.886, % improvement 20.5%, z value was 4.838 and p is 0.000, After second follow up *Baladi Thalam* therapy had the mean value 2.033, SD 0.718, SE 0.848, 30% improvement, z value was 5.108 and p is 0.000, After third follow up *Baladi Thalam* therapy had the mean value 2.033, SD 0.765, SE 0.875, % improvement 23.3%, z value was 4.613 and p is 0.000.

When the parameter nausea and vomiting was assessed, it was found that after procedure participants of *Baladi Thalam* therapy had the mean value 2.1, standard deviation 0.712, standard error 0.894, % improvement 11.7%, z value was 3.742 and p is 0.000, After first follow-up *Baladi Thalam* therapy had the mean value 1.767, SD 0.626, SE 0.791, % improvement 13.3%, z value was 3.557 and p is 0.000, After second follow-up *Baladi Thalam* therapy had the mean value 1.733, SD 0.521, SE 0.722, % improvement 21.7%, z value was 4.289 and p is 0.000, After third follow-up *Baladi Thalam* therapy had the mean value 1.733, SD 0.583, SE 0.764, % improvement 13.3%, z value was 4.000 and p is 0.000,

When the parameter photophobia and phonophobia was assessed, it was found that after procedure participants of *Baladi Thalam* therapy had the mean value 1.767, standard deviation 0.858, standard error 0.926, % improvement 10%, z value was 3.464 and p is 0.001, After first follow-up *Baladi Thalam* therapy had the mean value 1.767, SD 0.679, SE 0.824, % improvement 10%, z value was 3.207 and p is 0.001, After second follow up *Baladi Thalam* therapy had the mean value 1.5, SD 0.572, SE 0.757, % improvement 18.3%, z value was 3.999 and p is 0.000, After third follow-up *Baladi Thalam* therapy had the

mean value 1.4, SD 0.757, SE 0.87,% improvement 22.5%, z value was 4.242 and p is 0.000.

When the parameter vertigo was assessed, it was found that after procedure participants of *Baladi Thalam* therapy had the mean value 1.3, standard deviation 1.088, standard error 1.043,% improvement 5.0%, z value was 2.449 and p is 0.014,After first follow up *Baladi Thalam* therapy had the mean value 1.033, SD 0.765, SE 0.875,% improvement 7.5%, z value was 3.000 and p is 0.003, After second follow-up *Baladi Thalam* therapy had the mean value 1, SD 0.695, SE 0.834,% improvement 12.5%, z value was 3.419 and p is 0.001, After third follow-up *Baladi Thalam* therapy had the mean value 0.867, SD 0.776, SE 0.881,% improvement 11.7%, z value was 3.500 and p is 0.00.

DISCUSSION

Ardhavabhedaka can be differentiated from other *Shiro-roga* such as *Suryavarta*, *Shankha* etc. only due to its cardinal feature “half sided headache” and also due to its paroxysmal nature. This cardinal feature also differentiates it from *Amlapitta* because nausea, vomiting are seen in both the diseases. *Ardhavabhedaka* is explained as *Sadhyavyadhi*, but if the treatment is neglected due to any reason then it may become chronic or may lead to various complications such as *Karna-Akshi Nasa*.^[11] *Ardhavabhedaka* is best treated with *Ghrita*, *Taila* and *Majja*, *Shiro Virechana*, *Kaya Virechana*, *Nadisveda*, *Niruha* and *Anuvasana*, *Basti*, *Upanaha* and *Shiro Basti*. In any system of medicine there is no procedure for eradicating the disease from the roots. Only Ayurveda is such a system of medicine where the importance of both prevention and cure has been highlighted.

Probable mode of action

When *Thalam* is analysed with the background of these anatomical information, it can be seen the site of application is very important. The medicine is applied immediately above the superior sagittal sinus, one of the major intracranial sinuses, on an area which is rich in vascular supply as well as return and

having direct links with the inside of cranium. At bregma, being the junction of suture, the chance for getting into the skull is higher than the surrounding scalp.

When the medicine is applied on the proper site, it gets it access into *Twak* because of the *Pakam* by *Bhrajakapitha*. Here the absorption of the drug is in such a minute form that only the minimum quality required for the actual transfer of *Gunas* take place. So for the sake of better understanding it may be commented that it is the *Veerya* of the drug that gets absorbed to the *Twak*. This absorbed *Veerya* is then received by the *Rasa* and *Raktha Dhatus* and is carried first to the inside of the head and later get spread all over the body through *Rasavaha* and *Rakthavaha Srothases*.

The drug combination under Trail group in this study conclude *Bala Choornam*, *Ksheerbala Thailam* and Pulp of Aloe vera leaf. While analysing the properties of these ingredients individually it is seen that both *Bala* and *Ksheerbala Thailam* are *Sheeta* and *Snigdha*. While Pulp of Aloe vera leaf is *Ushna* and *Rooksha*. (*Sheeta* and *Snigdha Guna* act to pacify *Vata* and *Pitta* while *Ushna* and *Rooksha* properties pacify *Kapha*.) *Sheeta* and *Snigdha Gunas* of *Bala Choornam* and *Ksheerbala Thailam* act as *Vathapithahara* and *Ushna* and *Rooksha Guna* of *Pulp of Aloe vera leaf* may possibly prevent the probability of *Kaphakopa* by the *Sheeta* and *Snigdha Guna* of *Bala Choornam* and *Ksheerbala Thailam*. Thus the combination appears as a suitable *Tridosahara* combination. As explained earlier migraine can be considered as a *Vathadic Sirasoola* where *Vata* appears to be seated in *Raktha Dhātu*. The drug under trial is a balanced combination of 4 opposite properties may work both on *Vata Dosha* and *Rakthadushya*. *Bala Tailam* given in *Vathasonithaprakarana*.^[12] The medium, *Bala* is renowned *Vathahara* drug while *Pulp of Aloe vera leaf* is widely used as *Sophahara* preparation in Kerala.

CONCLUSION

Ardhavabhedaka is a grievous condition which needs better management and *Baladi Thalam* therapy is simple and easily adoptable by any population

irrespective of economical status of the suffering mankind. Clinical study of *Baladi Thalam* therapy has showed significant effect on symptoms of migraine. The concept of *Thalam* there by establishes the *Uttamanga* consideration of *Shiras*, through its efficacy. However, lack of any systematic documentation in the field has always opened up new horizons in the field of research.

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