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Research Article

A COMPARATIVE CLINICAL STUDY ON *SHARKARA MISHRITA DUGDA NASYA* AND *MURCHITA GHRITA NASYA* ON *ARDHAVABHEDAKA* W.S.R. TO MIGRAINE

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KEYWORDS: *Ardhavabhedaka, Sharkara Mishrita Dugda, Murchita Ghrita Nasya,* migraine, Ayurveda.

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ABSTRACT

Ardhavabhedaka is one among the 11 types of *Shirorogas* described in Ayurvedic classical texts. It is a type of headache where pain is localized to one half of the head. It can be correlated with migraine based on the similarity in etiology, pathology, symptoms and treatment principles. This study is conducted with the aim to compare the effect of '*Sharkara Mishrita Dugdha Nasya'* and '*Murchita Gritha Nasya'* in the management of *Ardhavabhedaka*. Two groups of 15 patients each were administered these two types of *Nasya* drugs for seven days. Patients were assessed on the basis of clinical parameters. Results show good effect on all symptoms of *Ardhavabhedaka* in both groups but *Murchita Ghrita Nasya* show better effect than *Sharkara Mishrita Dugdha Nasya.*

Among 15 patients in Group-A, 7 patients (36%) showed good response and among 20 patients in Group-B, 3 patients (16%) showed good response after the treatment. The response obtained after 28 days of treatment and the study reveals that in Group - B *Murchita Ghrita Nasya* shows very good response in treating the *Ardhavabhedaka. Sharkara* acts as *Vatapitta hara, Dugdha & Murchita Ghrita* acts as *Tridoshaghna*.

INTRODUCTION

The disease *Ardhavabhedaka* is one among the 11 types of *Shirorogas* considered by our Acharyas[1]. The causes of *Ardhavabhedaka* are excessive intake of *Ruksha padarthas, Adhyashana, Purva vata sevana, Atimaithuna* (excessive coitus), *Vegadharana* (suppressing of natural urges), *Atishrama* (excessive work) in which pain is appreciable in one half of the *Shiras, Shanka, Bru, Lalata*, and in *Karna* pradesha.[2] The attacks of *Ardhavabhedaka* will be once in three days/fifteen days and once in a month as per classics[3]. As per Acharya Charaka and modern science it is said that *Ardhavabhedaka*, if left untreated it leads to diseases like deafness and blindness[2]. Hence an early treatment intervention is needed for *Ardhavabhedaka*.

It can be correlated with migraine based on the similarity in etiology, pathology, symptoms and treatment principles. Headache is becoming common problem worldwide in these days. In that around 35% of patients are suffering from migraine headache[4]. Migraine does not shorten the life, but in severe cases a state of chronic exhaustion may occurs. Very rarely persistent cerebral symptoms remain with some irreversible vascular changes have occurred. A large group of people fails to get the achieved results and is refractory to treatment. In spite of advanced modern technology and medicine the treatment of migraine is not complete.

We get elaborate description of the disease *Ardhavabhedaka* and its treatment in our classics. Acharya Sushrutha mentioned that *Nasya* is said to be the ultimate treatment of *Ardhavabhedaka* when all other treatment fails[5]. Yogarathnakara also mentioned a same line of treatment for *Suryavartha* and *Ardhavabhedaka* in which *Nasya* is included[6]. So, a clinical study is planned to assess the efficacy of *Nasya* in the management of *Ardhavabhedaka*.

AIMS & OBJECTIVES

- To evaluate the effect of *Sharkara Mishrita Dugdha Nasya'* in the management of *Ardhavabhedaka*.

- To evaluate the effect of *Murchita Gritha Nasya* in the management of *Ardhavabhedaka*.
- To compare the effect of '*Sharkara Mishrita Dugdha Nasya'* and '*Murchita Gritha Nasya'* in the management of *Ardhavabhedaka*.

MATERIALS AND METHODS

Study design: A Randomized comparative clinical study

Source of patients

Patients suffering from *Ardhavabhedaka* selected from OPD and IPD of R.P.Karadi Ayurvedic hospital attached to SVMAMC Ilkal.

Diagnostic criteria

Clinical features of *Ardhavabedaka* as per the classical texts.

- *Uttamanga ardhabhaga sambhedha*[1]
- *Toda*
- *Bhrama*
- *Prakasha Asahisnatha*

Inclusion Criteria

The subjects fulfilling the following conditions were included.

1. Patients suffering from classical signs and symptoms of *Ardhavabedhaka.*
2. Patients of either sex between the age group of 16 to 60 years.
3. Patient fit for *Nasya karma.*

Exclusion Criteria

The following Subjects were excluded from the study:

1. Referred pain in one half of the head due to disorders like eye, ear, nose, Throat, teeth, etc.
2. Subjects with other systemic disorders like Tuberculosis, HIV etc.
3. Patients with Complicated migraine, ophthalmic migraine, retinal migraine, basilar artery migraine.

Intervention

30 Subjects clinically diagnosed to have *Ardavabhedaka* were registered randomly and categorized in to two groups consisting 15 subjects in each groups.

Group A was administered *Nasya* with *Sharkaramishrita Dugdha* while Group B was given *Nasya* with *Murchita Ghrita Nasya*. Treatment duration was 7 days. Post treatment follow up was done on 14th day, 21th day & 28th day. The dose for *Nasya* is 6 drops of drug in each nostril.

Procedure of *Nasya*

Nasya is a type of drug administration through nasal route. *Nasya* is done with classical procedure i.e. *Abhyanga* (local massage) with oil is followed by *Swedana* (sudation). After sudation 6 drops of drug is administered in each nostril in a supine position followed with deep breaths. When drug is felt in throat patient sits up and spit out the drug and secretions from throat. The procedure is followed by saline gargles.

Assessment criteria

Assessment was done on clinical (subjective) parameters after grading them on 5 point scale from 0-4. Assessment was done before treatment, after treatment and on follow ups.

Subjective parameters

Uttamanga ardhabhaga sambhedha, Toda, Bhrama, Prakasha Asahisnatha

Grading

Subjective criteria	Symptom	Score
Uttamanga ardhabhaga sambhedha	Intolerable pain	4
	Disturbs the normal work	3
	Not disturbs the normal work	2
	Pain tolerable	1
	No pain	0
Todha	Over 24 hours or continuous	4
	12 – 24 hours	3
	3 – 12 hours	2
	0 – 3 hours	1
	No pain	0

Bhrama	Continuous	4
	Once in a week	3
	Once in 15 days	2
	Once in a month	1
	No attack	0
Prakasha Asahisnatha	Intolerable	4
	Severe	3
	Moderate	2
	Mild	1
	Normal	0

OBSERVATIONS & RESULTS

Out of total 30 patients registered for study 17 were male while 13 were female. Maximum patients i.e. 50% patients were in age group 21-30 years. 43.33% of the patients were having a chronicity of more than 1 year. All the 30 patients present with *Ardha shiro bhagha samvedana,* while 60% were having Toda and 56.66% have *Bhrama & Prakasha asahisnuta* each. Most of the patients i.e. 60% have more frequent symptoms during winter season. All the patients were habituated to tea while a great proportion i.e. 56.67% has habit of coffee. 2/3rd patients have problems related to sleep.

Results on various clinical parameters indicated a good response with decrease in severity of all four symptoms after the treatment which get further improved on 1st, 2nd & 3rd follow ups. The following table shows improvement in subjective parameters with their statistical analysis.

1. *Uttamanga ardhabhaga sambhedha*: A Comparative assessment at different time points in two groups

Uttamanga ardhabhaga sambhedha	**Group A**	**Group B**	**Total**	**P value**
BT	3.53±0.52	3.40±0.51	3.47±0.51	0.481
AT	2.40±0.51	1.93±0.46	2.17±0.53	0.013*
AF 1	1.93±0.46	1.33±0.49	1.63±0.56	0.002**
AF 2	1.13±0.35	1.07±0.46	1.10±0.40	0.658
AF 3	1.00±0.76	0.53±0.64	0.77±0.73	0.079+

2. *Toda*: A Comparative assessment at different time points in two groups

Toda	**Group A**	**Group B**	**Total**	**P value**
BT	3.47±0.52	3.47±0.52	3.47±0.51	1.000
AT	2.00±0.53	2.00±0.65	2.00±0.59	1.000
AF 1	2.13±0.52	1.73±0.70	1.93±0.64	0.087+
AF 2	1.53±0.64	1.20±0.56	1.37±0.61	0.140
AF 3	0.87±0.74	0.60±0.63	0.73±0.69	0.299

3. *Bhrama*: A Comparative assessment at different time points in two groups

Bhrama	**Group A**	**Group B**	**Total**	**P value**
BT	3.33±0.49	3.20±0.41	3.27±0.45	0.426
AT	2.20±0.56	2.00±0.53	2.10±0.55	0.326
AF 1	2.07±0.70	1.40±0.63	1.73±0.74	0.011*

AF 2	1.53±0.74	1.20±0.56	1.37±0.67	0.176
AF 3	0.93±0.80	0.27±0.46	0.60±0.72	0.009**

4. *Prakasha asahishnuta* : A Comparative assessment at different time points in two groups

Prakasha asahishnuta	**Group A**	**Group B**	**Total**	**P value**
BT	2.67±0.49	1.87±0.64	2.27±0.69	0.001**
AT	1.60±0.74	0.93±0.70	1.27±0.78	0.017*
AF 1	1.60±0.63	1.20±0.41	1.40±0.56	0.050*
AF 2	1.47±0.64	0.93±0.70	1.20±0.71	0.039*
AF 3	1.13±0.74	0.40±0.63	0.77±0.77	0.007**

DISCUSSION

Ardhavabhedaka is one among the 11 types of *Shirorogas* considered by our Acharyas. It is counted as one among four specific shirorogas.[1] It is a most commonly found problem nowadays. *Ardhavabheadaka* is a disease of *Urdhvajatru* specially the Shiras which has a peculiar nature to be studied. Exactly the *Swabhava* of *Ardhava-bhedaka* cannot be compared to a modern disease. A comparison can be given as a unilateral headache. This term has been given under the study of migraine, which is one of the vascular diseases having manifestation with periodical relapses

There is difference of opinion regarding the *Doshic* predominance among Acharyas. Sushruta considers it as *Tridoshaja*. Charaka has explained it as either to be purely *Vataja* or *Vatakaphaja*. Vagbhata opines that only *Vata dosha* is involved. He has dealt with *Ardhvabheadaka* after explaining *Vataja shiroroga*. If aggravated *Vata* occupies whole of the Shiras it is *Vataja shirashoola*, where as if it occupies only half of the Shiras then it is called *Ardhavabhedaka*. Similarly in Bhela Samhita, Madhava nidana, Yogaratnakara, Bhava-prakasha it is considered as either purely *Vataja* or *Vata kaphaja. Videha* of *Nimitantra* opines it to be *Vatakaphaja*.

The observation reveals that *Ardhava-bhedaka* is more common in age group of 21-30 years. Bhatia et al reported that mean age of onset of migraine is 22 years[7]. This is because these individuals have to face both physical and mental strains. In clinical groups on the basis of sex the incidence in male was observed to be high i.e., 53.3% in Group-A and 66.7% in Group-B. This is because male were more exposed to external whether and having more stress and tension. In clinical groups on the basis of study the incidence was observed to be high in Business men in Group-A i.e.,4 (26.7%), and more students in Group-B i.e.,6 (40%). This is because mental as well as physical strain and untimely food habits.

It was observed that the chronicity range was from more than 1 year in both the groups. Bhatia et al reported that highest number patients diagnosed with migraine have chronicity between 1-3 years. [7] This may be due to delayed or improper diagnosis and treatment. Moloney et al also described that half of the cases of migraine either may not be diagnosed properly or may be treated improperly[8]. Among the patients selected for the study, majority of patients were of mixed food habits. Tea and coffee was observed as most common addictions among patients of migraine. Leira et al also reported role of tea and coffee as triggering factor of migraine.[9]

Sharkara Mishrita Dugdha & Murchita Ghrita was selected for the purpose of *Nasya. Nasya karma* was selected, because *Nasya* is said to be main line of treatment in *Shirorogas* and also as a prophylactic measure. Among 15 patients in Group-A, 7 patients (36%) showed good response and among 20 patients in Group-B, 3 patients (16 %) showed good response after the treatment. The response obtained after 28 days of treatment and the study reveals that in Group – B *Murchita Ghrita Nasya* shows very good response in treating the *Ardhavabhedaka. Sharkara* acts as *Vatapitta hara, Dugdha & Murchita Ghrita* acts as *Tridoshaghna*. *Vata* is responsible for all the activities in the body weather it is physiology or pathology. Hence Vata is the leader among *Tridoshas. Vata vahini siras* carry impulse throughout the body, so *Vata* should be protected and maintained in its equilibrium state.

Study revealed that, response in reduction of severity of *Shoola* was promising in group-B compared to that of group-A which may be due to various drugs used in *Murchhana* of *Ghrita*. These drugs pacify all three *Dosha* and are more

specifically have effect on *Vata dosha*, thus helping in more effectiveness in *Ardhavebhedaka* which is *Tridoshaj* disease with predominance of *Vata dosha*. *Pathyahara* and *Vihar* plays an important role in prevention and control of *Ardhavabhedaka*. This is also reported by various studies that improper diet may be the trigger of migraine.

Mode of Action of *Nasya*

Regarding the mechanism of action of *Nasya karma*, the hypothesis is it acts both at local and systemic levels, by direct contact with nerve terminals or uptake of drugs by the nasal mucosa.

Explanation regarding the action through local levels or direct contact with nerve terminals [10] (Gerber Bitta 1997).

It is currently known in the literature that the trigeminal nerve, through its trigemino-vascular system is deeply involved in the genesis and maintenance of pain in headache syndromes. The nasal mucosa which comes in contact with drugs applied directly involved in *Nasya* therapy is supplied with both the ophthalmic as well as maxillary branches of the trigeminal nerve. Direct counter irritation or stimulation to these nerve terminals could cause changes in the trigeminal ganglion itself. The result of these hypothetic changes in the firing of trigeminal neurons could lead to alleviation of pain.

The ptergopalatine ganglion could also be involved in the local effects of *Nasya*. This ganglion lies on the anterior wall of the pterygopalatine fossa right below the maxillary nerve and it is easily accessible through the nasal cavity. The pterygopalatine ganglion has sensory, para-sympathetic and sympathetic fibers from carotid plexus. Direct stimuli to these sympathetic fibers could cause changes in the carotid vascular motility, helping to alleviate the symptoms of headache.

Explanation regarding generalized action by absorption of the drug (Srinivas Hejamadi Gurudip Singh 1984) Vriddha Vagbhata was first to narrate the mode of drug action by *Nasya karma*. The medicine administered will reach the *Sringataka srotos* and spreads to the *Siras* of eye, ear and throat etc and to the head (*Murdha*). The authors like Arunadatta have followed the same path of description. Sushrutha described *Sringataka marma* as a *Sira marma* situated at the site of union of *Siras* supplying to the nose, eye, ear, and tongue. Scholar Indu in his commentary on Astanga Sangraha has opined that *Sringataka* is the inner side of middle part of head. (*Siras antarmadhya*) probably this may be referred to paranasal areas consisting air sinuses and blood vessels.

CONCLUSION

This study has shown that the disease *Ardhavabhedaka* is more common in the age group of 21-30 years and also males are affected more. Common etiology being *Vegadharana, Divaswapna, Manasantapa, Adhyasana*, consumption of chocolate, cheese, nuts like ground nuts, cashew nuts have precipitated and aggregated the headache attack. This has to be avoided in order to prevent the onset of headache attack.

The analysis of the results of the trial confirms that *Murchita Ghrita Nasya* is very effective than *Sharkara Mishrita Dugdha nasya. Nidana parivarjana* is very much necessary to control the severity of the disease as well as in avoiding the disease due course.

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