Research Article

Effect of Gajapippaliagnikarma and Rasnadashamoola Kashaya Ghanavatiabhyantaraprayoga in The Management of Ardhavabhedaka Vis-À-Vis Migraine – A Case Report

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ABSTRACT

Background: Ardhavabhedaka(Migraine) is one of the most common diseases among Shirorogas. The disease involving the unilateral side of the head is known as Ardhavabhedaka.Ardhavabhedaka is characterized by Bheda(splitting type of pain), Toda (pricking type of pain), Bhrama(giddiness) and Shirashoola (headache) on half part of the cranium. It occurs once in 10 or 15 days or suddenly. Ardhavabhedaka can be correlated to migraine. Migraine affects more than one billion individuals each year across the world, and is one of the most common neurological disorders. Migraine headache reoccurs frequently, which is more severe and has unilateral involvement. This case report presents a 51 years old female, with chief complaint of one-sided headache along with nausea, vomiting, photophobia and phonophobia.

Objective: To evaluate the effect of GajapippaliAgnikarma with Rasnadashamoola Kashaya GhanavatiinArdhavabhedaka (Migraine).

Methodology: Gajapippaliagnikarma was done on Shankha pradesha for four sittings at the interval of 1 week and Rasna Dashamoola Kashaya Ghanavati was given orally for 22 days. The therapeutic outcome was assessed using HIT-6 Score and Serum PACAP-38 levels.

Results: A marked reduction was seen symptoms of the patient as well as the serum PACAP – 38 levels.

Keywords: Agnikarma, Ardhavabhedaka,Migraine,PACAP-38.

1. INTRODUCTION

Acharya SushrutaandAcharya Vagbhatahave mentioned Ardhavabhedaka as one among the Shirorogas[1,2].Ardhavabhedaka is one of the most common diseases among Shirorogas. The disease involving the unilateral side of the head is known as Ardhavabhedaka.[2]Ardhavabhedaka is characterized by Bheda(splitting type of pain), Toda (pricking type of pain), Bhrama(giddiness) and Shirashoola (headache) on half part of the cranium. It occurs once in 10 or 15 days or suddenly.[1]Ardhavabhedaka can be correlated to migraine. Migraine affects more than one billion individuals each year across the world, and is one of the most common neurological disorders, with a high prevalence and morbidity, especially among young adults and females.[3] Migraine is the second common cause of headache.[4] Global migraine prevalence is 14–15%, and migraine accounts for 4.9% of global population ill health quantified in years lived with disability (YLDs).[5]

Migraine headache reoccurs frequently, which is more severe and has unilateral involvement. The pain has pulsating quality, is aggravated by routine physical activities and is associated with nausea, photophobia and phonophobia [6]. Migraine may precipitate due to fluctuation of hormones especially in females, insomnia, parasomnia, fasting, alcohol, dyslipidemia, etc. It also shows the genetic predisposition. Pituitary adenylate cyclase-activating polypeptide (PACAP) is one of the important mediators in the pathogenesis of Migraine.[7] It is present in sensory trigeminal neurons and modulate nociception at different levels of the nervous system. PACAP-38 causes dilatation of extracerebral vessels and Migraine attacks. It selectively activates the PAC_1 receptor, which is a signaling pathway implicated in Migraine pain. [8]

Treatment of migraine include analgesics, non-steroidal anti-inflammatory drugs, 5 HT_1 receptor agonists, dopamine antagonists, corticosteroids, serotonin antagonists, antidepressants, calcium channel antagonists and beta blockers. [9,10] In Ayurveda, variety of systemic medicines as well as local therapies are mentioned for the management of Ardhavabhedaka, such as Nasya, Upanaha, Shirolepa, Uttama matrachatusnehapana, Agnikarma, Kaya Virechana, Nadisweda, NiruhaandAnuvasana Basti, Upanaha, andShirobasti.[11]Ardhavabhedaka is a Vata Dosha Pradhana condition and pain cannot occur without involvement of Vata. So Agnikarma pacify vata by virtue of its Ushna and Tikshna Guna. Agnikarma cures the diseases which cannot be even cured by Bheshaja, Shastra and Ksharakarma. Also, the diseases treated with Agnikarma have no chance of recurrence.Agnikarma is easy to perform and cost effective. Pippaliis one of the dahanopakaranas mentioned by Acharya Sushruta.[12]Rasna dashamoola KashayaGhanavatihas Tridoshahara properties and also it is indicated in Ardhavabhedaka.[13]Therefore, the present study is an effort to evaluate the effect of

GajapippaliAgnikarmawith Rasnadashamoola Kashaya Ghanavatiabhyantaraprayoga in Ardhavabhedaka vis-a-vis Migraine.

2. MATERIALS AND METHODS

2.1 Case History

A female patient aged 51 years and homemaker came to the OPD at JSS Ayurveda Hospital, Mysuru, with the complaints of half sided headache especially in forehead, eyebrows and temple region in the past 10 years which had increased since 4 months, associated with nausea and vomiting. The headache increases on exposure to light, sound, travelling, hot weather emotional stress and on skipping meals. For the above complaints she had approached Allopathy doctor and took medicines. As the symptoms recurred, she approached our hospital for management.

History of past illness: Not known case of Hypertension, Diabetes or Thyroid dysfunction

Family history: Mother and sister have the same complaints

Menstrual history: Menopause 2 years back

2.2 Personal History

Ahara- Mixed diet, especially spicy and sour food
Vihara- Diwaswapna
Nidra- Vishama
Vyasana - Nil
Abhyavaharana shakti- Pravara
Jarana shakti- Pravara
Mala pravritti – Regular
Mootrapravritti- Normal

2.3 Clinical Findings

General Examination

Temperature- Afebrile
Pulse- 74bpm
Blood pressure- 130/80mmHg

Systemic Examination

Patient's respiratory, GIT and cardiovascular systems were normal, she was conscious and oriented to time, place and person.

Local Examination – Examination of Head

Head posture- Erect
Examination of forehead
Wrinkles- present, symmetrical
Facial asymmetry- absent
Distribution of hairs- uniform
Texture of hairs- rough, straight
Scalp examination- NAD

Table 1: Visual Acuity

	Distant Vision	Near vision
Right Eye	6/6	N9
Left Eye	6/6	N9
Bilateral	6/6	N9

Ear Examination

External auditory canal was clear and Tympanic membrane was intact on both the sides

Nose Examination

On Anterior Rhinoscopy- Nothing specific

Paranasal Sinuses

On palpation no tenderness was observed.

Oral Cavity Examination

No abnormalities detected

2.4 Treatment Given

Table 2: Treatment Schedule

Treatment	Schedule
Agnikarma with Gajapippali on Shankhapradesha[12]	01/03/2026, 08/03/2026, 15/03/2026& 22/03/2026
Rasna dashamoola Kashaya ghanavati[13] 500mg BD after food	From 01/03/2026 to 22/03/2026

3. RESULTS

3.1 Assessment of Subjective Parameters

Table 3: Subjective Parameters

Sl. No.	Parameters	BT (01/03)	AT (22/03)	Follow-up 1 (06/04)	Follow-up 2 (21/04)	Follow-up 3 (05/05)
01	Severity of Headache	3	1	1	0	0
02	Duration of Headache	2	1	1	0	0
03	Nausea	2	1	0	0	0
04	Vomiting	2	0	0	0	0
05	Vertigo	0	0	0	0	0
06	Photophobia	1	0	0	0	0
07	Phonophobia	1	1	0	0	0
08	HIT – 6 Score	68	46	44	36	36

3.2 Serum Biomarker – Pituitary Adenylate Cyclase Activating Polypeptide-38 (PACAP-38)

Blood samples were obtained from the antecubital vein. Venous blood (3ml) was collected in a sterile serum separator tube. The samples were allowed to clot for two hours at room temperature. Then, they were centrifugedat1,000×g for20 mins.Thetubescontainingserumwerelabelledandstoredat-80°Cuntilanalyzed. For enzyme-linked immunosorbent assay, commercial Human Adenylate Cyclase Activating Polypeptide 1, Pituitary (ADCYAP1)ELISAkit(CEB347Hu) was used following manufacturer's instructions.

Table 4: Serum PACAP-38 Levels

Before Treatment [01/03/2026]	After Treatment [22/03/2026]
502pg/ml	177pg/ml

Before treatment, it was found to be 502pg/ml and after treatment it was 177pg/ml.

4. DISCUSSION

Ardhavabhedaka is Vataja or Vata-Kaphaja by Acharya Charaka, Tridoshaja by Acharya Sushruta and Vataja by Acharya Vagbhata.Agnikarma with Gajapippali along with Rasnadashamoola Kashaya Ghanavatihave given significant improvement in this case.

Agni has Ushna Guna which gets transferred to Twak by Agnikarma. This Gunanormalises the Sheeta Guna of Vata and Kapha which helps to reduce shirashoola in Ardhavabhedaka. As per Gate theory by Agnikarma, the heat generated during Agnikarma stimulates cutaneous thermoreceptors and mechanoreceptors supplied by branches of the trigeminal nerve. Thermal stimulation (Agnikarma) activates large-diameter afferent fibers (Aβ fibers). These fibers increase inhibitory interneuron activity within the trigeminal spinal nucleus and dorsal horn. Inhibitory interneurons suppress transmission from nociceptive Aδ and C fibers carrying migraine pain signals. Consequently, the "gate" for pain transmission is partially closed, reducing the perception of headache [14].

Rasna dashamoola Kashaya ghanavati contains Rasna, Vishwa, Vidanga, Triphala, Dashamoola, Eranda and Shyama Trivrut. In Rasna DashamoolaKashaya Ghanavati, 6-Shogaol suppresses neuroinflammation and oxidative stress which inhibits inflammatory cytokines and pain signaling pathways[15]. 6-Gingerol inhibits prostaglandin synthesis and inflammatory cytokines which contributes to analgesic effects in migraine [16]. Quercetin is a potent antioxidant that inhibits oxidative stress, mast cell activation, and inflammatory cytokine release. Zingiberene Contributes to anti-inflammatory and analgesic properties of ginger through modulation of inflammatory pathways [17].

TheDushitaPittaandPravruddhaKaphaAvasthawiththepropellingforceofVigunaVata causes vomiting. ThePrakupitaVatawhichcanbeunderstoodas stimulatedVagusnerve(VyanaVata),Corticalstimulationandprocessing – underthe stimulation of Udana and Vyana Vata, Gut-Brain axis as Samana and Apana Vata. During migraine attacks, serotonin released from enterochromaffin cells and central neurons activates 5-HT3 receptors located on Vagal afferent nerves, area postrema and nucleus tractus solitarius (vomiting centre). Activation of these receptors triggers nausea and vomiting. 6-Gingerol present in Rasna Dashamoola Kashaya Ghanavati has been shown to inhibit 5-HT3 receptor-mediated signaling by reducing serotonin-induced calcium influx, thereby suppressing emetic signaling[18]. Ginger, which is present in Rasna Dashamoola Kashaya Ghanavati has been shown to significantly reduce experimentally induced vestibular vertigo. In a double-blind crossover study, ginger reduced caloric-induced vertigo better than placebo, indicating a direct vestibular suppressive action [19].

Auditory hypersensitivity is associated with excessive glutamatergic neurotransmission in cortical sensory pathways. By reducing glutamate-mediated excitation, linalool present in Rasna Dashamoola Kashaya Ghanavati may decrease sound sensitivity [20].

5. CONCLUSION

The present study highlights thetreatment of Ardhavabhedakausing Agnikarma with Gajapippali along with Rasnadashamoola Kashaya Ghanavatiorally. The treatment effectively reduced the severity of headache, duration of headache, nausea, vomiting, photophobia, phonophobia, HIT-6 score and serum biomarker PACAP-38 analysis after the treatment. The intervention was safe and well tolerated by the patient.

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AUTHOR CONTRIBUTIONS

RHS: Data collection, methodology, writing original draft, GS: Formal analysis & supervision, SS: Material preparation, BR: Software, KAS: literature review, SB: Manuscript editing. All authors read and approved the manuscript.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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SUPPLEMENTARY DATA

Gradings of Subjective Parameters

Severity of Headache

0 = No headache
1 = Mild headache, patient aware only if he / she pays attention to it
2 = Moderate headache, can ignore at times
3 = Severe headache, can't ignore but he / she can do his / her usual activities
4 = Excruciating headache, can't do anything

Duration of Headache

0 = Nil
1 = 1-3hrs/day
2 = 4-6hrs/day
3 = 7-12hrs/day
4 = more than 12hrs/day

Nausea

0 =: Nil
1 = Occasionally
2 = Moderate, but doesn't disturb the routine work
3 = Severe, disturbing routine work
4 = Severe enough, small amount of fluid regurgitating from the mouth

Vomiting

0 = Nil
1 = Only if headache doesn't subside
2 = Vomiting 1-2 times

3 = Vomiting 3-4 times
4 = More than 4 times, forced to take medicine to stop vomiting

Vertigo

0 = Nil
1 = Feeling of giddiness
2 = Patient feels as if everything is revolving
3 = Revolving signs + Blackouts
4 = Unconsciousness

Photophobia

0 = Absent
1 = Present

Phonophobia

0 = Absent
1 = Present

Table 5: Headache Impact Test-6 (HIT-6)

Sl No.		Never (6)	Rarely (8)	Sometimes (10)	Very Often (11)	Always (13)
1.	When you have headaches, How often is the pain severe?					
2.	How often do headaches limit your ability to do usual daily activities including household work, work, school, or social activities?					
3.	When you have a headache, how often do you wish you could lie?					
4.	In the past 4 weeks, how often have you felt too tired to do work or daily activities because of your headache?					
5.	In the past 4 weeks, how often have you felt fed up or irritated because of your headache?					
6.	In the past 4 weeks, how often did headaches limit your ability to concentrate on work or daily activities?					

Total Score –