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AYURVEDIC MANAGEMENT OF *ARDHAVABHEDAKA* WITH *BRAHMI GHRITA*: A CASE REPORT AND IT'S CORRELATION WITH MIGRAINE

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Abstract:

The head houses the brain and the most vital control, processing, and sensory center of the human body. *Ardhavabhedaka* is described among the disorders of the head *(Shiroroga)* in *Ayurvedic* literature and is characterized predominantly by severe headache. Migraine is a recurrent neurological disorder characterized by episodic moderate-to-severe headache, commonly associated with nausea, vomiting, photophobia and phonophobia.[1] In Ayurvedic literature, the clinical presentation of migraine can be correlated with *Ardhavabhedaka*, a disorder described under *Shiroroga*. *Brahmi Ghrita* is an *Ayurvedic* medicated ghee preparation traditionally used in contexts related to *Medhya* and nervous-system functions. The present case was undertaken to document the clinical management of *Ardhavabhedaka* using *Brahmi Ghrita* and to discuss its clinical correlation with migraine.

Keywords: *Ardhavabhedaka*, Migraine, *Brahmi Ghrita*, *Shiroroga*, Headache, *Medhya Rasayana, Vata-Pitta.*

INTRODUCTION

In *Ayurvedic* classical texts, the *Shirah* (head) is described as one of the *Trimarma*, representing one of the three vital regions of the body, and is regarded as *Uttamanga*, the foremost or most important part of the body. It is considered the principal site of consciousness, *Prana* (vital life force), and the sensory faculties *(Indriyas)*. Hence, disorders affecting the head, particularly severe conditions such as *Ardhavbhedaka*, are given considerable therapeutic importance to preserve an individual's mental faculties, vitality, and overall functional well-being.

Ayurveda describes various types of *Shiroroga*, among which *Ardhavabhedaka* is individualized according to *Dosha* predominance and disease stage. *Ardhavabhedaka* is characterized predominantly by severe pain involving one half of the head. Because unilateral recurrent headache is a prominent feature of migraine, *Ardhavabhedaka* is frequently used as an *Ayurvedic* clinical correlate of migraine.(2)

Migraine is a complex, multifactorial neurological disorder that goes far beyond a typical headache, serving as the second leading cause of disability worldwide. Migraine affects roughly 12% to 15% of the global population, making it a major neurological condition tracked closely by the World Health Organization (WHO). In India, migraines affect about 25% of people in their lifetime, significantly higher than the global average of 14.7%. The disorder can substantially interfere with occupational, social and personal functioning.(3)

Ardhavabhedaka is primarily a *Vata* dominant disorder and Sneha is regarded as an important therapeutic approach in *Shiroroga*, particularly in *Vata*-dominant conditions, owing to its *Snigdha* and *Vata-Shamaka* properties.(4) *Brahmi* is traditionally regarded as a *Medhya Rasayana*, while *Ghrita* is considered useful for nourishing and supporting the nervous system. Recent *Ayurvedic* case reports have similarly adopted this correlation and have assessed treatment response using pain scales and migraine-disability measures. Therefore, the present modified case report focuses on the clinical use of *Brahmi Ghrita* in a patient diagnosed with *Ardhavabhedaka*.

AIM

To evaluate ayurvedic management of *Ardhavabhedaka* with *Brahmi Ghrita* and its correlation with migraine.

OBJECTIVE

1. To establish the clinical correlation between migraine and *Ardhavabhedaka*.
2. To assess the effect of *Brahmi Ghrita* on headache frequency.
3. To assess its effect on headache intensity and duration.
4. To evaluate changes in associated symptoms such as nausea, vomiting, photophobia and phonophobia.
5. To assess the effect of treatment on functional disability using MIDAS or another validated instrument.
6. To observe recurrence during the follow-up period.

Case Presentation –

A 30-year-old female patient, a student, resident of Hadgaon, Nanded District, Maharashtra, visited the Government *Ayurvedic* College and Hospital, Nanded, Maharashtra, India, on February 5, 2026, with complaints suggestive of unilateral headache with sometimes nausea, vomiting, photophobia, phonophobia, etc. A detailed history of the presenting complaints, past medical history, family history, personal history, and dietary and lifestyle factors was obtained. A thorough general and systemic examination was performed, along with appropriate clinical assessment. The patient reported recurrent episodes of headache, with relevant triggering factors including consumption of tea and coffee.

Present complaint –

I. Recurrent unilateral headache.
II. Sometimes Throbbing/Piercing pain in head.
III. Sometimes nausea, vomiting, photophobia, phonophobia, etc.

Duration of illness – 3 years.

Frequency of attacks – 2-3 episodes per week**.**

Duration of each attack – 4-5 hours.

Aura - Present

Associated symptoms – Sometimes photophobia, nausea and phonophobia.

Chief Complaints -

The patient presented with recurrent headache predominantly affecting the left half of the head, associated with nausea, photophobia, phonophobia, vomiting.

Throbbing pain in head with an intensity of approximately 8/10 on the Numerical Rating Scale.

History of Present Illness

The patient was apparently healthy until approximately half hour before presentation, after which recurrent episodes of unilateral headache developed.

The attacks occurred approximately 2-3 times per month, each episode lasting approximately 4-5 hours. The headache was aggravated by routine physical activity and was associated with nausea, vomiting, photophobia, phonophobia, etc.

The patient identified with precipitating factors such as:

i. Irregular sleep.
ii. Mental stress.
iii. Prolonged fasting.
iv. Excessive screen exposure.
v. Exposure to bright light.
vi. Skipping meals.
vii. Specific dietary triggers like tea, coffee, etc.
viii. Excessive work.

Past History

The patient had a history of recurrent headache for approximately 3 years. The episodes were intermittent in nature and occurred with a frequency of approximately 2-3 attacks per month. The headache was predominantly unilateral and was associated with (nausea/vomiting/photophobia/phonophobia), with variable severity during different episodes.

There was no significant past history of head injury, seizure disorder, cerebrovascular disease, meningitis, or other neurological illness. There was no history suggestive of chronic systemic illness such as hypertension, diabetes mellitus, or thyroid disorder. The patient had no history of any major surgical intervention or prolonged hospitalization. The patient had previously used conventional analgesics for symptomatic relief, with temporary improvement. There was no history of long-term *Ayurvedic* treatment for the present complaint. No known drug allergy was reported.

Family History -

There was no family history of migraine or recurrent headache. No relevant hereditary neurological or systemic disorder was reported among the first-degree relatives.

Personal History -

Lifestyle - Inadequate water intake.

Sleep – Disturbed.

Habits - Drinking tea multiple times a day.

Physical Examination –

General Examination

O/E: Patient was conscious, oriented, and cooperative.

Pulse: 72 /min, regular. **Blood pressure:** 120/80 mmHg.

Respiratory rate: 18 /min. **Temperature:** 37 °C.

Appetite: Reduced. **Bowel**: Constipation sometimes.

Micturition: Normal. **Sleep**: Disturbed.

Diet: Vegetarian **Water intake**: 3-4 Liters/day.

Stress: Moderate.

No pallor, icterus, cyanosis, clubbing, or lymphadenopathy was observed.

No pedal oedema was present.

Systemic Examination –

P/A: Soft, non-tender; no organomegaly.

CVS: S1 S2 N.

RS: B/L A/E+, NVBS, no added sounds.

CNS: Conscious, oriented; higher functions N; CN intact; motor & sensory N; DTR N; no focal neurological deficit; no meningeal signs.

P/S: NAD.

Cerebellar Examination

Finger - nose test was normal.

Heel - knee test was normal.

Meningeal Signs

The patient was examined for features suggestive of meningeal irritation.

Neck rigidity – absent

Kernig's sign – negative

Brudzinski's sign – negative

This shows that absence of clinical features suggestive of meningitis.

Examination of Eyes

Because migraine may be associated with photophobia and visual symptoms, ocular examination should be documented. Conjunctiva, sclera, extraocular movements, visual fields are normal.

Headache Assessment

Site: unilateral.

Onset: sudden or gradual.

Character: throbbing, pulsatile, pressing, stabbing.

Intensity: VAS (8/10).

Duration: 4-5 hours/days.

Frequency: 2-3 attacks/month.

Timing: morning/evening.

Aggravating factors: light, sound, physical activity, stress.

Relieving factors: sleep, rest, darkness, medication.

Associated symptoms: nausea, vomiting, photophobia, phonophobia, aura.

MIDAS Questionnaire (Migraine Disability Assessment)[5]

i. How many days in the last 3 months did you miss work because of your headaches?
6 days/month.

ii. How many days in the last 3 months was your productivity at work reduced by half or more because of your headaches?
3 days

iii. How many days in the last 3 months did you not do household work because of your headaches?
4 days

iv. How many days in the last 3 months was your productivity in household work reduced by half or more because of your headaches?
4 days

v. How many days in the last 3 months did you miss social, family, or leisure activities because of your headaches?
5 days

MIDAS Score

Total MIDAS score = Q1 + Q2 + Q3 + Q4 + Q5

Score – 22; Grade IV (Moderate disability)

Additional MIDAS information:

A. Number of days with headache during the last 3 months: 8-9 days.

B. Average pain intensity (0–10): 8 /10.

Visual Analogue Scale (VAS) for Headache Assessment[6]

The Visual Analogue Scale (VAS) was used to assess the intensity of headache in the patient. It is a simple, subjective pain-assessment tool consisting of a 10-cm horizontal line, with 0 representing “no pain” and 10 representing “the worst imaginable pain.”

The patient was instructed to mark a point on the line corresponding to the intensity of headache experienced during the attack.

VAS score

Pain intensity

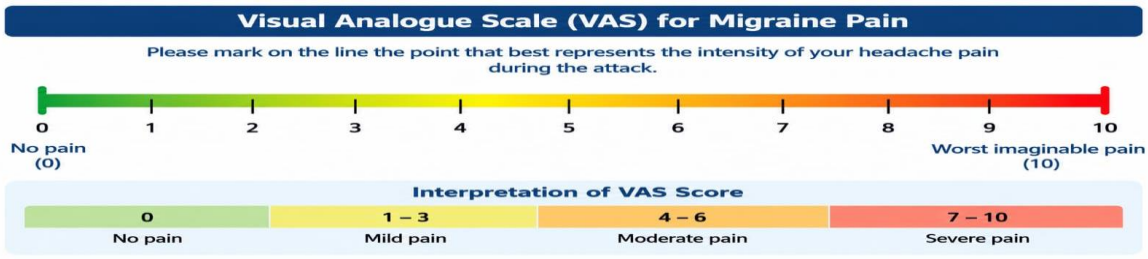
0 - No pain

1–3 - Mild pain

4–6 - Moderate pain

7–10 - Severe pain

VAS Score - 8/10.



DASHVIDHA PARIKSHA –

Sr. No.	*DASHAVIDHA PARIKSHA*	ASSESSMENT
1	*Prakruti*	*Pitta – Vata predominance*
2	*Vikruti*	*Pitta – Vata predominance*
3	*Sara*	*Raktasarata*
4	*Samhanana*	*Hin*
5	*Pramana*	*Madhyama*
6	*Satmya*	*Madhyama*
7	*Sattva*	*Alpa*
8	*Aaharashakti*	*Madhyama*
9	*Vyayamashakti*	*Madhyama*
10	*Vaya*	*Madhyama*

***Nidana Panchaka* – of *Ardhavabhedaka*–**

***Hetu Sevan*[7]**

i.*Ratri – Jagarana*.
ii.*Aniyamita Ahara*.
iii.*Atichinta*/ *Manasika* stress.
iv.*Vega – Dharana*.
v.Excessive exposure to sensory stimuli.
vi. *Anashana*/ Fasting.
vii.Sleep disturbance.

Rupa –

According to *Acharya Charaka*, the features of *Ardhavabhedaka* are severe pain in half side of the head, affecting particularly neck, eyebrows, temporal region, ear, eye, and forehead. The pain is like cutting by sharp objects or piercing in nature.

मन्याभ्रूशंखकर्णाक्षिललाटार्थे अतिवेदनाम्।

शस्त्रारणिनिभां कुर्यात्तीव्रांसो अर्धावभेदक ॥

नयनंवा अथवा श्रोत्रमतिवृद्धो विनाशयेत् । (च. सि. ९/७५-७८)[8]

According to *Sushruta*, i.e., Severe tearing and pricking pain in one half of the head associated with giddiness. These features appear every fortnightly or ten days or any time.

यस्यउत्तमांगार्धमतीवजंतीसंभेदतोदभ्रमशूलजुष्टं।

पक्षाद्दशाहादथवा अपि अकस्मात्स्यार्धभेदं त्रितयाद्व्यवस्येत् ॥ (सु. उ. २५/१२)[9]

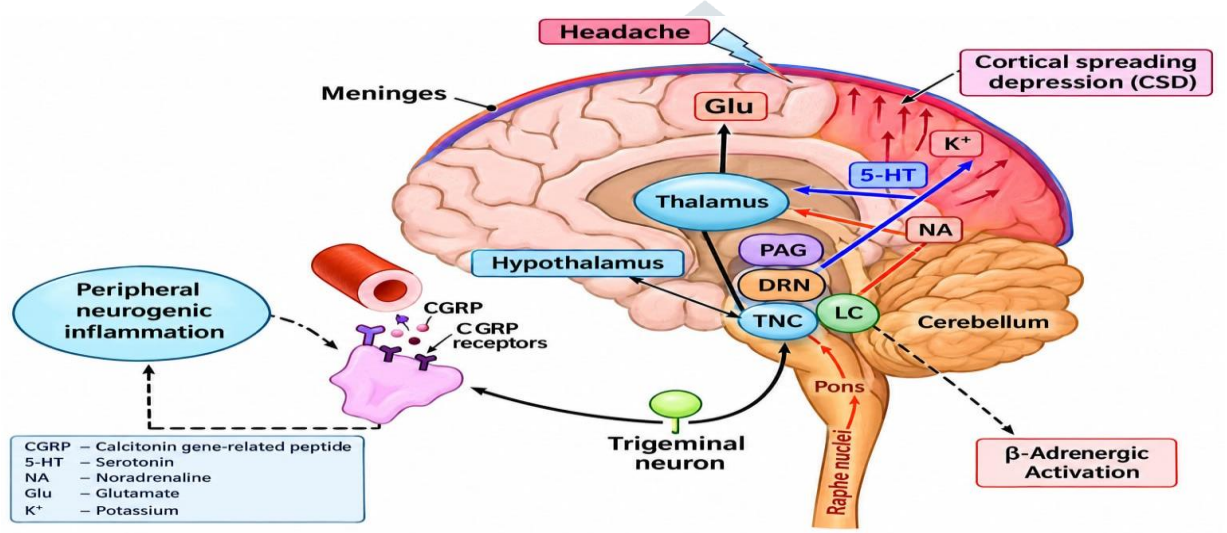
Samprapti –

Tridosha (Vata + Pitta + Kapha) / Vata - Pitta (Dalhan) → *Dosha Sanchaya* in *Udbhava Sthana* → *Dosha Prakopa* → *Dosha Prasara* → *Dosha - Dooshya Sammurchana* → *Sthana Samshraya* in *Shiras (*due to *Khavaigunya)* → *Vyaktavastha* → *Ardhavabhedaka (Ardhashira Vedana).*[10]

Migraine Pathophysiology[11]

Genetic susceptibility + Triggers → Cortical hyperexcitability → Cortical spreading depression (especially in migraine with aura) → Activation of trigeminal nerve endings → Release of CGRP and other neuropeptides → Neurogenic inflammation & sensitization of trigeminal pathways → Transmission of pain signals to brainstem and thalamus → Migraine headache.

Migraine



Pathophysiology

Diagnosis

***Ayurvedic* Diagnosis**

The patient was diagnosed with *Ardhavbhedaka*, based on the characteristic clinical features of *Ardha-Shirah-Shoola* (unilateral headache), recurrent episodes of headache, associated nausea/vomiting, photophobia/phonophobia, and aggravation by routine physical activity.

The diagnosis was supported by the following *Ayurvedic* considerations:

Dosha predominance: Vata – Pitta (Dalhan); Tridosha (Sushruta).

Dushya: Rasa and *Rakta.*

Srotas involved*: Rasavaha Srotas* and *Raktavaha Srotas.*

Srotodushti: Sanga, Vimargagamana.

Rogamarga: Madhyama.

Udbhavasthana: Pakvashaya - Amashaya.

Adhisthana: Shirah.

Samprapti: Vitiated Doshas, particularly Vata with *Pitta association, producing pain* and *other symptoms* in the *Shirah - Pradesha.*

Vyadhi: Ardhavbhedaka

Modern Clinical Diagnosis

Migraine with aura may be diagnosed when the patient's clinical presentation fulfilled the accepted diagnostic pattern of recurrent attacks of headache, typically lasting 4–72 hours, with characteristic unilateral/pulsating moderate-to-severe pain, aggravation by routine activity, and associated nausea/vomiting and/or photophobia and phonophobia.

If the patient has reversible neurological symptoms such as visual disturbances, sensory symptoms, or speech disturbance preceding the headache, the diagnosis may instead be migraine with aura.

Differential Diagnosis[12]

Ayurvedic Disorders	Characteristic Features	Modern Correlation
Ardhavbhedaka	Severe pain predominantly in one half of the head; recurrent attacks; may be associated with nausea/vomiting and sensory sensitivity.	Migraine, particularly unilateral migraine
Suryavarta	Headache that increases with sunrise/daylight and gradually subsides as the sun sets; often associated with Pitta/Vata features.	Frontal sinusitis, cluster headache, tension type headache.
Shankhaka	Very severe, piercing/acute headache involving the temporal region; serious condition with rapid progression.	Temporal arteritis.

Treatment Plan

The principal modification in the present case is the incorporation of *Brahmi Ghrita*.

Medicine – *Brahmi Ghrita*.

Dose/Method - 10 ml.

Route – Oral.

Anupana – Lukewarm water/ milk.

Frequency – Once daily, preferably in the morning.

Duration – 3 months (5days/weeks).

Diet: *Pathyakar Ahara*; avoidance of known migraine triggers.

Lifestyle: Adequate sleep, regular meals, stress reduction, avoidance of excessive screen exposure and *Divasvapna.*

Follow-up Schedule

Day 0 (Baseline): Detailed assessment and recording of headache severity, frequency, duration, associated symptoms and functional impairment.

Day 7: Assessment of tolerability, headache frequency and severity.

Day 15: Assessment of clinical response and associated symptoms.

Day 30: Final assessment and comparison with baseline findings.

At 1-month follow-up: The patient reported reduction in the frequency and intensity of headache attacks. The associated symptoms were also reduced, with improvement in routine activities.

At 2-month follow-up: Further improvement was observed. Headache episodes became less severe, and the requirement for symptomatic medication was reduced. The patient reported better performance in routine academic and social activities.

At 3-month follow-up: The therapeutic effect of *Brahmi Ghrita Pana* was maintained. The patient experienced only occasional and mild headache episodes, with substantial reduction in associated symptoms and minimal interference with daily activities. The VAS score decreased from 8/10 at baseline to 3/10, while the MIDAS score decreased from 22 to 16, indicating sustained clinical improvement.

Parameters for Follow-up

1) Intensity of headache attacks also reduced after following the above treatment.
2) Sleep disturbance is also reduced.
3) VAS Assessment -

VAS at baseline: 8/10 (severe headache).

VAS after treatment: 3/10 (mild headache).

Thus, VAS provided a quantitative measure of headache severity and helped in objectively documenting the clinical improvement of the patient after following treatment.

4) MIDAS assessment -

MIDAS at baseline: 22 (moderate disability)

MIDAS after treatment: 16 (mild disability)

Thus, the MIDAS score provided a quantitative measure of migraine-related disability and helped in objectively documenting the reduction in disability and improvement in daily functioning following treatment.

5) Overall clinical improvement is seen among patient.

DISCUSSION

Acharya Sushruta described *Shiroroga* means diseases or disorders affecting the head (*Shiras*), commonly presenting with headache and other cranial symptoms. In *Ayurveda Ardhavabhedaka* symptoms described such as *Ardhauttamanga Shoola*, *Toda* and *Bheda*, show considerable clinical similarity with migraine, particularly the unilateral, severe, throbbing/piercing nature of headache. In the present case study, the patient diagnosed with *Ardhavbhedaka* showed improvement in headache severity, frequency, associated symptoms and functional disability following *Ayurvedic* intervention with *Brahmi Ghrita*.

The following pathological sequence may be considered:

Nidana such as irregular food habits, inadequate sleep, mental stress, excessive exposure to screens, fasting and consumption of triggering substances such as tea or coffee may contribute to *Dosha Prakopa*. These factors lead to *Tridosha Prakopa*, predominantly *Vata–Pitta*, causing *Srotodushti* and *Pratiloma* of *Vata*. Subsequently, *Rasa–Raktavaha Srotas* become involved and the vitiated *Doshas* attain *Sirah Pradesha*, resulting in *Ardhavabhedaka*. That is disturb normal *Dosha* equilibrium and subsequently affect the channels associated with the head and nervous system.

Treatment of *Ardhavabhedaka* –

ब्राह्मीरसवचाकुष्ठशङ्खपुष्पीभिरेव च । पुराणं घृतमुन्मादा लक्ष्म्यपस्मारपापनुत् ॥ (च. चि. १०/ २५)[13]

शिरोरोगे त्रिदोषोत्थे त्रिदोषघ्नो विधिर्हितः । सर्पिःपानं विशेषेण पुराणं वा दिशन्ति हि ॥२४॥ (सु. उ. 26/24)[14]

Snehapana is considered beneficial in *Shiroroga* according to *Acharya Susruta*. *Brahmi Ghrita* was selected considering its *Medhya, Rasayana, Vata-Pitta Shamaka* and *Manasika Dosha*-balancing properties. The *Snigdha* and *Madhura* properties of *Ghrita* may help in pacifying aggravated *Vata*, while *Brahmi* is traditionally described as a *Medhya Rasayana* and may support cognitive and neurological functions. Thus, the formulation may act through both *Shamana* and *Rasayana* mechanisms, addressing factors involved in the recurrence of headache.

Pharmacodynamic Action of *Brahmi Ghrita*

Triggering factors → Cortical hyperexcitability *(Brahmi Ghrita: Medhya, Manasika-balavardhaka* and stress-modulating action*)* → Cortical spreading depression (*Brahmi*: potential neuroprotective & neuronal-stabilizing effects) → Activation of trigeminal nerve endings (may help modulate neuronal excitability) → Release of CGRP & other neuropeptides (possible modulation of trigeminal neuropeptide pathways) → Neurogenic inflammation & trigeminal sensitization (potential antioxidant/anti-inflammatory effects of *Brahmi* constituents) → Transmission of pain signals to brainstem & thalamus (*Ghrita*-based *Snehana* + *Brahmi Medhya* action may support neural function) → Reduction in migraine headache.

Clinical improvement

The effectiveness of treatment can be assessed objectively using the Visual Analogue Scale (VAS) and Migraine Disability Assessment (MIDAS). Reduction in VAS score indicates improvement in headache intensity, whereas reduction in MIDAS score reflects decreased impact of migraine on daily activities, work and social functioning. Improvement in associated symptoms such as nausea, photophobia, phonophobia and fatigue further supports the clinical response.

The therapeutic response may therefore be attributed to the combined effect of *Dosha Shamana, Agni* improvement*, Srotoshodhana, Vata anulomana* and *Rasayana* action of the intervention. Avoidance of individual triggering factors, particularly excessive tea/coffee, fasting, sleep deprivation and psychological stress, is also important in preventing recurrence.

Implications for future research

The present case highlights the potential role of *Ayurvedic* treatment in the management of *Ardhavbhedaka* with clinical correlation to migraine. However, being a single case study, the findings cannot be generalized to the wider population. Further studies with larger sample sizes, standardized diagnostic criteria, longer follow-up and objective assessment using VAS, MIDAS and headache-frequency diaries are required.

Comparative clinical trials evaluating *Brahmi Ghrita* against conventional migraine therapy or other *Ayurvedic* interventions may provide stronger evidence regarding its efficacy and safety. Future research should also investigate the relationship between *Ayurvedic Nidana, Dosha Prakopa* and modern migraine triggers, thereby establishing a more comprehensive integrative model.

Conclusion of Discussion

Thus, the present case suggests that *Ayurvedic* management of *Ardhavbhedaka*/Migraine with *Brahmi Ghrita*, along with appropriate dietary and lifestyle modifications, may provide beneficial effects in reducing headache severity, frequency and migraine-related disability. The approach emphasizes correction of the underlying *Dosha* and *Srotas* disturbances and may serve as a supportive holistic strategy in migraine management.

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