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MIGRAINE: AN *AYURVEDIC* PERSPECTIVE WITH SPECIAL EMPHASIS ON MANAGEMENT THROUGH *PANCHAKARMA*—A NARRATIVE REVIEW

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ABSTRACT

Migraine is a common and disabling primary headache disorder characterised by recurrent attacks of moderate-to-severe headache, often accompanied by nausea, vomiting and increased sensitivity to light or sound. *Ayurveda* describes several headache disorders under Shiroroga, among which *Ardhavabhedaka* has been correlated with migraine on the basis of similarities in clinical presentation. This narrative review examined the *Ayurvedic* understanding of Ardhavabhedaka and critically discussed the rationale and available clinical evidence for *Panchakarma*-based management. Information was synthesised from published *Ayurvedic* literary reviews and the clinical studies cited in those reviews, with attention to Nidana, Dosha involvement, *Samprapti*, therapeutic principles and individual procedures including *Nasya*, *Virechana*, *Basti*, *Vamana* and Raktamokshana, as well as selected external therapies. The literature indicated variation in the described Dosha predominance and suggested that Nasya and Virechana have received the greatest clinical attention. However, the available evidence was heterogeneous and included small

studies, uncontrolled investigations, case reports and multimodal interventions, limiting attribution of benefit to individual procedures. The review therefore found that *Panchakarma* represents a clinically relevant area for further investigation, but current evidence remains insufficient to establish definitive efficacy for migraine. Standardised interventions, validated outcomes, adequate sample sizes, appropriate comparators and longer follow-ups are required.

KEYWORDS: *Ardhavabhedaka, Ayurveda, Basti, Migraine, Nasya, Panchakarm.*

INTRODUCTION

Migraine is a recurrent primary headache disorder associated with substantial individual and societal burden. It is characterised by episodes of moderate-to-severe headache, commonly unilateral and pulsatile, with associated symptoms such as nausea, vomiting, photophobia and phonophobia. Migraine may occur with or without aura and can substantially interfere with occupational, social and daily activities.[1]

Modern management includes acute treatment for individual attacks and preventive therapy for patients with frequent, severe or disabling episodes. Nevertheless, treatment may be limited by inadequate response, adverse effects, contraindications, medication overuse and the need for prolonged therapy.[1, 2]

Ayurveda approaches headache disorders through the broader category of Shiroroga. Among these, Ardhavabhedaka has been correlated by contemporary Ayurvedic authors with migraine because of similarities such as unilateral head pain, severe intensity and recurrent episodic presentation.[1, 2] This correspondence is an interpretive comparison between two different systems of disease classification and should not be regarded as diagnostic equivalence.

Panchakarma occupies an important position in Ayurvedic therapeutics. Procedures discussed in relation to *Ardhavabhedaka* include Nasya, Virechana, Basti *and Vamana, while Raktamokshana* and several external procedures are also described in the broader management of headache disorders.[1, 2] The present narrative review was undertaken to examine the Ayurvedic conceptualisation of migraine, with particular emphasis on *Ardhavabhedaka*, and to critically discuss the rationale and available evidence concerning *Panchakarma*-based management.

AIM AND OBJECTIVES

The aim of this narrative review was to examine the Ayurvedic understanding of migraine, particularly *Ardhavabhedaka*, and to critically discuss the rationale and available clinical evidence for *Panchakarma*-based management.

• To describe the Ayurvedic conceptual understanding of migraine with particular reference to Ardhavabhedaka and Shiroroga.

• To review the described Dosha involvement, Nidana and Samprapti of Ardhavabhedaka.

• To summarise the rationale and therapeutic role of individual *Panchakarma* procedures used in migraine/Ardhavabhedaka.

• To critically interpret the available clinical evidence and identify important research gaps.

METHODOLOGY

This was a focused narrative review rather than a systematic review or meta-analysis. The review was based primarily on two published Ayurvedic literary reviews addressing migraine/Ardhavabhedaka and its management: the review on Panchakarma in migraine published in the Journal of Ayurveda and Integrated Medical Sciences in 2019 and the literary review on *Virechana Karma* in *Ardhavabhedaka* published in the African Journal of Biomedical Research in 2024.[1, 2]

Information relevant to the contemporary description of migraine, *Ayurvedic* nomenclature, *Dosha* involvement, *Nidana*, *Samprapti*, therapeutic principles and the rationale and clinical evidence for individual Panchakarma procedures was extracted from these sources. Clinical studies cited within the source reviews were considered when discussing evidence for individual interventions. The extracted information was paraphrased and synthesised, with overlapping content consolidated to avoid repetition.

Where the two reviewed sources presented differing interpretations, particularly concerning the predominant *Dosha*, the discrepancy was retained and discussed rather than resolved without evidence. Classical Ayurvedic citations reported in the source reviews were retained as reported; exact verse-level correspondence was not independently re-verified against primary editions in this narrative synthesis.

No additional systematic database search, predefined systematic-search strategy, formal risk-of-bias tool, meta-analysis or PRISMA-based study-selection process was undertaken. This

methodological scope is consistent with the article's classification as a narrative review and represents an important limitation of the evidence synthesis.

CONTEMPORARY CLINICAL PERSPECTIVE ON MIGRAINE

Clinical features

Migraine is characterised by recurrent attacks of headache, frequently lasting several hours and potentially extending to several days. The pain is commonly unilateral and pulsatile and may be accompanied by nausea, vomiting, photophobia and phonophobia. Migraine may occur with or without aura, in which transient neurological symptoms precede or accompany the headache phase.[1]

Epidemiology and clinical significance

Migraine is among the most prevalent neurological disorders and affects both men and women, with a substantially higher prevalence among women, particularly during the reproductive years. Recurrent attacks may interfere with employment, education, family responsibilities and social activities.[1]

Pathophysiological considerations

Contemporary understanding recognises migraine as a complex neurological disorder involving genetic susceptibility and abnormal activation of neural pathways, particularly the trigeminovascular system and associated neuropeptide signalling. The Ayurvedic source literature reviewed here does not comprehensively address these contemporary mechanisms; therefore, modern neurophysiological mechanisms should not be retrospectively attributed to classical *Ayurvedic* descriptions.[1, 2]

AYURVEDIC UNDERSTANDING OF *ARDHAVABHEDAKA*

Shiroroga and correlation with migraine

Ayurveda describes diseases affecting the head under the broad category of *Shiroroga*, among which *Ardhavabhedaka* is recognised. The term has been interpreted as severe, splitting or piercing pain affecting one side of the head. Contemporary Ayurvedic authors commonly correlate it with migraine on the basis of unilateral pain, severe intensity, recurrent attacks and episodic presentation.[1, 2]

Dosha involvement

The classical literature does not provide a completely uniform explanation of Dosha involvement. The reviewed sources report *Tridoshaja* involvement in *Sushruta, Vataja or Vata-Kaphaja* involvement in Charaka, and greater emphasis on *Vata in Vagbhata*.[1, 2] A contemporary literary review places greater emphasis on Pitta involvement and relates the disorder to Rakta Dhatu and *Raktavaha/Rasavaha Srotas*.[2] This *Pitta-centred* interpretation should be regarded as a contemporary interpretive synthesis rather than an unequivocal classical consensus.

Nidana

The reviewed *Ayurvedic* literature identifies *Rooksha Bhojana, Atibhojana, Adhyashana, Vegadharana and Ativyayama* among the causative factors described for *Ardhavabhedak*a.[1,2] These factors are considered to disturb *Dosha equilibrium* and contribute to disease manifestation.

Samprapti

The reviewed literature describes a sequence in which inappropriate dietary and behavioural factors impair *Agni*, leading to *Agnimandya* and formation of *Ama*, followed by *Srotovarodha, Dosha* Prakopa and upward movement towards the head.[1, 2] The Ayurvedic sequence may be summarised as*: Nidana* → *Agnimandya* → *Ama* formation → *Srotovarodha* → *Dosha Prakopa* → *Urdhvagati* → localisation *in Shirah* → *Ardhavabhedaka.* This framework should not be interpreted as a direct equivalent of modern migraine neurobiology.

Clinical features

Classical clinical features reported in the reviewed literature include severe unilateral headache extending towards the neck, eyebrows, eyes, ears, temples and forehead. Other reported manifestations include throbbing or piercing pain, *Bhrama*, temporal or zygomatic discomfort or swelling and ocular redness.[1,2] Unilateral, recurrent and throbbing pain provides the principal basis for the modern correlation with migraine; other classical prognostic statements should remain within their textual context.

AYURVEDIC PRINCIPLES OF MANAGEMENT

Management of *Ardhavabhedaka i*s discussed under *Nidana Parivarjana, Shamana Chikitsa, Shodhana Chikitsa* and appropriate dietary and lifestyle measures. Treatment selection is traditionally individualised according to *Dosha* predominance, patient strength, disease stage

and digestive capacity. *Vata*-predominant presentations may favour *Snigdha and Ushna* measures, *Kapha* involvement may lead to measures intended to reduce *Srotas obstruction*, and Pitta-associated manifestations may support cooling and *Pitta*-pacifying approaches.[1, 2]

PANCHAKARMA IN THE MANAGEMENT OF MIGRAINE

Panchakarma is traditionally described through five major purificatory procedures: *Vamana, Virechana, Basti, Nasya and Raktamokshana*. The reviewed literature discusses these procedures in relation to *Ardhavabhedaka,* although the amount and quality of clinical evidence differ substantially.[1, 2] External procedures such as *Shiroabhyanga, Shirodhara and Shirobasti* should be distinguished from *Panchakarma* proper.

Nasya Karma

Nasya involves administration of medicinal substances through the nasal route and is traditionally considered particularly relevant to disorders above the clavicle. In Ayurvedic reasoning, the nasal route is regarded as an important pathway for therapeutic influence on the head, and *Nasya* is described in relation to *Shirovirechana.*[1] Proposed modern explanations concerning cranial neural pathways remain hypotheses and have not been established experimentally in migraine.

Clinical evidence for *Nasya* is more developed than that for several other *Panchakarma* procedures. A 2022 narrative review of clinical Ayurveda studies reported that *Nasya* was included in eight of ten *Panchakarma*-containing studies.[3] A controlled clinical trial evaluating Vrihatajivakadya oil administered through *Nasya* in migraine reported improvement in migraine-related disability and quality-of-life outcomes.[4] Heterogeneity in formulations, duration, concomitant interventions and outcome measures limits direct comparison and prevents identification of a definitively effective *Nasya* protocol.

Virechana Karma

Virechana is therapeutic purgation traditionally associated particularly with elimination of aggravated *Pitta*. The 2024 literary review emphasised *Virechana* in *Ardhavabhedaka* and proposed a *Pitta*-oriented interpretation.[2] The procedure is generally described through *Purva Karma, Pradhana Karma and Paschat Karma*. The reviewed source mentions *Trivrit* and *Aragwadha* but does not provide sufficient standardised clinical dosing information to establish a reproducible migraine protocol.[1]

Clinical evidence remains limited. A case study described improvement following multimodal Ayurvedic management that included *Virechana*, while another study evaluated an integrated Ayurveda-and-Yoga intervention incorporating *Virechana* and reported improvement in pain intensity and quality of life.[5, 6] Neither study permits attribution of the observed response specifically to *Virechana*.

Basti Karma

Basti is traditionally considered important in *Vata*-predominant disorders. The reviewed literature describes *Niruha Basti* using *Vata*-pacifying ingredients followed by *Anuvasana Basti* using *Ghrita* or *Taila*.[2] A small clinical study evaluated *Kesharsiddha Ghrita Nasya* together with *Dashamoola*-based *Basti and Pathyadi Ghanavati* and reported improvement in clinical parameters.[7] Because *Nasya* and oral medication were administered concurrently and the sample was small, the independent contribution of *Basti* cannot be established.

Vamana Karma

Vamana is therapeutic emesis and is traditionally associated with *Kapha*-predominant disorders. The reviewed literature includes *Vamana* within the broader *Panchakarma* framework relevant to head disorders; however, disease-specific clinical evidence for *Vamana* in migraine was not identified in the principal source reviews.[1,2] No firm conclusion regarding its efficacy in migraine can therefore be drawn from the reviewed evidence.

Raktamokshana

Raktamokshana is described in Ayurvedic literature as an instrumental procedure. Although some secondary literature has suggested its use for acute headache, migraine-specific controlled clinical evidence is lacking in the reviewed sources.[2] Given the invasive nature of the procedure and the absence of convincing migraine-specific evidence, its efficacy cannot presently be established.

Table 1: Summary of *Panchakarma* and supportive procedures discussed in the reviewed literature.[1, 7]

Procedure	*Ayurvedic* rationale	Clinical evidence identified	Interpretation
Nasya	Head-region therapy; *Shirovirechana*	Most frequently represented Panchakarma procedure; controlled clinical evidence reported	Promising but heterogeneous evidence
Virechana	Traditionally	Case study and multimodal	Specific efficacy not

	associated with *Pitta*-oriented elimination	*Ayurveda-Yoga* evidence	established
Basti	*Vata*-oriented therapeutic approach	Small combined *Nasya/Basti*/oral-treatment study	Independent effect uncertain
Vamana	*Kapha*-oriented purification	No migraine-specific clinical evidence identified in principal reviews	Evidence insufficient
Raktamokshana	Classical instrumental approach	No convincing migraine-specific controlled evidence	Evidence insufficient; invasive procedure
Shiroabhyanga / Shirodhara / Shirobasti	External supportive head therapies	Limited migraine-specific evidence	Supportive role remains uncertain

EXTERNAL AND SUPPORTIVE AYURVEDIC THERAPIES

Shiroabhyanga

Shiroabhyanga involves therapeutic oil massage of the scalp. The reviewed literature proposes relaxation and possible effects on autonomic or stress-related responses, but these mechanisms have not been conclusively demonstrated in migraine-specific clinical research.[1]

Shirodhara

Shirodhara involves continuous application of a liquid stream over the forehead and is an external Ayurvedic procedure rather than one of the five core *Panchakarma* procedures.[1] Proposed effects include relaxation and modulation of stress and sleep-related processes, but migraine-specific controlled evidence remains limited.

Shirobasti and Dhoopana

Shirobasti involves retention of medicated oil over the scalp within a constructed boundary. Although described as head disorders, evidence specifically supporting its use in migraine is insufficient. *Dhoopana* is therapeutic fumigation; the reviewed literature does not provide adequate migraine-specific evidence to establish efficacy.[1]

Shamana Chikitsa and Internal Medicines

The reviewed sources provide limited information on specific internal *Shamana* formulations for *Ardhavabhedaka. Trivrit and Aragwadha* are identified in the context of *Virechana,* while *Ghrita* and *Taila* are discussed in relation to *Snehana* and *Basti*.[1-2] The available material is

insufficient to construct a comprehensive validated list of formulations specifically indicated for migraine without verification against primary Ayurvedic texts.

PATHYA-APATHYA AND LIFESTYLE MANAGEMENT

Dietary and behavioural regulation is an important component of Ayurvedic management. The *Nidana* described for *Ardhavabhedaka* provides the basis for *Nidana Parivarjana*, including avoidance of excessive or irregular food intake, excessive physical exertion and suppression of natural urges.[1-2] These recommendations have conceptual parallels with modern migraine trigger management, but such parallels should not be interpreted as direct evidence of equivalence between the two systems.

AVAILABLE CLINICAL EVIDENCE

A narrative review of clinical evidence published in 2022 identified 77 screened studies and 12 eligible clinical studies, comprising six randomised controlled trials, five non-randomised studies and one pilot study. Ten included studies involved *Panchakarma* procedures, eight included *Nasya* and three included *Virechana*.[3] The review reported generally favourable findings but also identified small sample sizes, short follow-up periods, inadequate outcome measures and methodological limitations.[3]

Taken together, the evidence suggests a possible beneficial role for selected Ayurvedic interventions, but heterogeneity of treatment packages prevents reliable determination of the independent efficacy of individual *Panchakarma* procedures. *Nasya* has received the greatest clinical attention, whereas evidence for *Basti*, *Vamana and Raktamokshana* remains substantially more limited.

DISCUSSION

The Ayurvedic framework provides a structured approach to recurrent headache through *Shiroroga*, *Ardhavabhedaka*, *Nidana*, *Dosha*, *Agni*, *Ama* and *Srotas*. The contemporary correlation with migraine is primarily based on symptomatic similarities. This correlation is useful as an interpretive bridge but should not be presented as diagnostic identity.

The variation in reported *Dosha* predominance is clinically relevant because Ayurvedic treatment selection is traditionally individualised. Classical descriptions emphasise *Vata*, *Vata-Kapha* or *Tridoshaja* involvement, while *Pitta* predominance has been emphasised in a more recent literary review.[1-2]

Among the *Panchakarma* procedures, *Nasya* has received the greatest clinical attention.[3] Nevertheless, available studies differ in formulation, dose, duration, co-interventions and outcome measures. *Virechana* has a substantial classical rationale but limited evidence from studies in which it can be isolated from other interventions. *Basti* has a plausible *Vata*-oriented rationale but similarly limited direct evidence.

An important methodological distinction is that *Shirodhara*, *Shiroabhyanga* and *Shirobasti* are supportive external procedures and should not be indiscriminately labelled as core *Panchakarma* procedures. Overall, the available literature supports continued clinical investigation rather than definitive therapeutic claims.

LIMITATIONS OF AVAILABLE EVIDENCE

- Small sample sizes reduce statistical power.
- Multimodal Ayurvedic protocols make it difficult to determine the contribution of individual procedures.
- Treatment protocols vary in formulations, dose, duration and procedural details.
- Outcome measures are not consistently standardised.
- Follow-up periods are frequently short.
- Control groups and blinding are not consistently implemented.
- Adverse-event reporting is limited in several publications.[3]

FUTURE RESEARCH DIRECTIONS

- Studies should define migraine using recognised contemporary diagnostic criteria while separately documenting the *Ayurvedic* diagnosis of *Ardhavabhedaka.*
- Interventions should report formulation, ingredients, preparation, dose, route, frequency, duration, procedural sequence, practitioner qualifications and concomitant treatments.
- Validated outcomes should include monthly migraine days, headache frequency and intensity, acute medication use, migraine disability and quality-of-life measures.
- Longer follow-up is needed to evaluate recurrence and long-term disability.
- *Dosha- and Prakriti*-stratified designs may help investigate whether baseline Ayurvedic characteristics influence treatment response.
- Comparative studies should use appropriate control, standard-care or sham procedures where feasible.
- Proposed biological mechanisms should be tested experimentally rather than inferred solely from anatomical or physiological plausibility.

CONCLUSION

Ardhavabhedaka is an Ayurvedic disorder of *Shiroroga* that shares several clinically recognisable features with migraine, particularly severe unilateral and recurrent head ache. The correlation between the two conditions is useful as a contemporary interpretive framework but should not be regarded as diagnostic equivalence. Classical Ayurvedic authorities differ in their descriptions of *Dosha* involvement, while a *Pitta*-centred interpretation appears in more recent literary literature. *Panchakarma*, particularly *Nasya* and *Virechana*, has received clinical attention, but the available evidence remains heterogeneous and includes small studies, uncontrolled investigations, case reports and multimodal treatment protocols. Current evidence is insufficient to establish definitive efficacy for any individual *Panchakarma* procedure in migraine. Further well-designed clinical research using standardised interventions, validated outcomes, adequate sample sizes, appropriate comparators and longer follow-up is required.

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