

An Ayurvedic Perspective on *Shirashoola* with Special Reference to *Ardhavabhedaka*: A Comprehensive Review

Dr. Annupriya Jakhar¹, Prof. Dr. Pramod Kumar Mishra², Dr. Ayushi Bhaskar³

¹MD Scholar, PG Department of Kayachikitsa, PGIA, DSRRAU, Jodhpur

²Professor and HOD, PG Department of Kayachikitsa, PGIA, DSRRAU, Jodhpur

³Assistant Professor, PG Department of Kayachikitsa, PGIA, DSRRAU, Jodhpur

Abstract—Background: Headache (*Shirashoola*) is one of the most common clinical complaints worldwide. Ayurveda, the ancient Indian medical system, offers a detailed framework for understanding and managing headache disorders, classifying them under *Shiroroga* with subtypes such as *Ardhavabhedaka*, which closely parallels modern migraine.

Objective: This review systematically analyses the Ayurvedic concepts of *Shirashoola*, particularly *Ardhavabhedaka*, covering etymology, classification, aetiology, pathogenesis, clinical features, and treatment, while establishing correlations with contemporary understandings of migraine.

Methods: A comprehensive review of classical Ayurvedic texts (*Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, *Madhava Nidana*) and modern medical literature on headache disorders was conducted. Information was synthesised following the IMRAD structure.

Results: Ayurveda considers the head (*Shirah*) as the supreme organ (*Uttamanga*), housing *Prana* and all sensory faculties. *Shirashoola* encompasses various headache types classified by *Dosha* involvement. *Ardhavabhedaka*, characterised by unilateral, paroxysmal, piercing headache, shows striking similarities to migraine in clinical presentation, triggers, and management principles.

Conclusion: The Ayurvedic understanding of *Ardhavabhedaka* provides valuable insights into migraine pathogenesis and treatment, offering a holistic approach that addresses both physical and psychological dimensions. Integrating Ayurvedic principles with modern medicine may improve outcomes for patients with chronic headaches.

Index Terms—*Shirashoola*, *Ardhavabhedaka*, Migraine, Ayurveda, Headache, *Samprapti*

I. INTRODUCTION

Headache is a universal human experience, documented since antiquity. Among traditional medical systems, Ayurveda provides a remarkably sophisticated understanding of head disorders. The head (*Shirah*) is accorded supreme importance, designated *Uttamanga* the most vital part of the body because it houses *Prana* (life force) and all sense organs [1]. Classical Ayurvedic texts emphasise that injury to the head can be fatal or lead to severe neurological deficits such as facial paralysis, speech impairment, and loss of consciousness [2]. This concept is poetically expressed by comparing the human body to an inverted tree, with the head as the root [3].

Shirashoola (headache) is considered both a symptom and an independent disease entity under the broader category *Shiroroga*. Commentators clarify that in the context of headache, *Shiroroga* refers specifically to pain conditions, not to other scalp disorders like alopecia [4,5]. Among the various types of *Shiroroga*, *Ardhavabhedaka* literally “half-side piercing pain” is particularly significant. Its description closely mirrors modern migraine: unilateral, paroxysmal, severe headache often accompanied by giddiness, and potentially leading to visual or auditory impairment if untreated.

This review aims to systematically explore the Ayurvedic understanding of *Shirashoola* with special emphasis on *Ardhavabhedaka*, and to draw parallels with contemporary knowledge of migraine, thereby highlighting opportunities for integrative approaches.

II. METHODS

A systematic review was conducted using classical Ayurvedic texts: *Charaka Samhita*, *Sushruta Samhita*, *Ashtanga Hridaya*, *Ashtanga Samgraha*, *Madhava Nidana*, and *Bhaishajya Ratnavali*. Commentaries by Chakrapani, Dalhana, and Arundatta were consulted for interpretive insights. For modern correlates, a search of PubMed and standard textbooks was performed using the keywords “migraine”, “headache”, “pathophysiology”, and “treatment”. Information was synthesised following the IMRAD format (Introduction, Methods, Results, Discussion) to ensure clarity and structured presentation.

III. RESULTS

3.1. Conceptual Framework of *Shirashoola*

3.1.1 Definition and Scope

Shirashoola encompasses painful conditions of the head. Different *acharyas* use synonymous terms: *Shiroroga* (Charaka), *Shirobhitapa* (Sushruta), and *Shirastapa* (Vagbhatta). Etymologically, *Shirah* derives from the root *Śri*, meaning that all bodily organs depend on it for function. *Shoola* is defined as sharp, piercing pain resembling the pricking of a nail or a trident [6]. Thus, *Shirashoola* denotes a specific painful disorder of the head, not merely a symptom.

3.1.2 Classification of *Shiroroga*

The classification varies among texts, reflecting evolving clinical insights:

- Sushruta enumerates 11 types: *Vātaja*, *Pittaja*, *Kaphaja*, *Raktaja*, *Sannipātaja*, *Kṛmija*, *Kṣayaja*, *Sūryāvarta*, *Anantavāta*, *Ardhavabhedaka*, and *Śāṅkhaka* [7].
- Charaka describes 9 types in different sections, including *Vātaja*, *Pittaja*, *Kaphaja*, *TriDoshaja*, and *Krimija* [8,9].
- Vagbhatta lists 19 types, combining painful headaches with scalp diseases [10].

Each type presents distinctive features based on *Dosha* predominance. *Vātaja* headache is violent, worse at night, relieved by pressure; *Pittaja* features burning pain and sensation of heat; *Kaphaja* presents with heaviness, coldness, and a sticky sensation; *Raktaja* resembles *Pittaja* but with extreme tenderness;

Sannipātaja exhibits mixed features and is more challenging to treat.

3.2. *Ardhavabhedaka*: Detailed Analysis

3.2.1 Definition and Characterisation

Ardhavabhedaka is defined as pain affecting exactly half of the head [11]. The term *Ardha* (half), *Ava* (indicating a poor prognosis), and *Bhedaka* (piercing) together describe a severe, unilateral headache with a paroxysmal pattern. Sushruta describes it as occurring every ten days, fortnight, or suddenly, with tearing and pricking pain associated with giddiness [12]. Charaka provides the most comprehensive account, detailing aetiology and symptoms: severe pain in half of the head (including neck, eyebrow, temple, ear, eye, and forehead) that is as agonising as a red-hot needle or a churning rod, potentially leading to vision or hearing loss if aggravated [13].

3.2.2 *Nidāna* (Aetiological Factors)

The aetiological factors for *Ardhavabhedaka* are diverse and predominantly *Vāta-vitiating*, followed by *Kapha* and *Pitta* factors.

Vāta-vitiating factors:

- Dietary: dry food, eating before digestion of the previous meal (*adhyashana*), cold water intake.
- Lifestyle: suppression of natural urges (*vegavarodha*), excessive sexual activity (*atimāithuna*), night awakening (*rātrijāgarana*), loud and excessive talking.
- Environmental: exposure to eastern wind, frost, dust, smoke.
- Psychological: grief, mental stress.

Pitta-vitiating factors:

- Sun exposure, excessive heat, intake of sour and heavy foods.

Kapha-vitiating factors:

- Day sleep, intake of cold food, heavy meals.

The predominance of *Vāta* factors aligns with the fundamental Ayurvedic principle that pain cannot occur without *Vāta* involvement [14].

3.2.3 *Samprapti* (Pathogenesis)

The pathogenesis follows the six-stage (*Shaṭkriyakāla*) framework:

1. *Sanchaya* (accumulation):

Repeated exposure to aetiological factors causes *agnimāndya* (impaired digestion) and *āma* formation, leading to obstruction of *rasa-rakta vaha srotas* (channels carrying plasma and blood).

2. *Prakopa* (aggravation):

Doshas become vitiated. Different *acharyas* specify *vātakaphaja* (Charaka), *triDoshaja* (Sushruta), or *vātaja* (Vagbhata), but *Vāta* is universally central.

3. *Prasara* (spread):

Vitiated *Vāta* ascends (*ūrdhvagamana*) towards the head, sometimes accompanied by *Kapha*.

4. *Sthāna samśraya* (localisation):

The *Doshas* localise in the head and its structures: *manyā* (neck), *bhrū* (eyebrow), *śaṅkha* (temples), *karṇa* (ear), *akṣi* (eye), *lalāṭa* (forehead), and *ghaṭa* (occipital/parietal region). The unilateral localisation is characteristic.

5. *Vyakti* (manifestation):

Clinical features appear: severe pain described as cutting, piercing, pricking, throbbing, or burning, often with giddiness. If untreated, complications such as vision or hearing loss may develop.

6. *Bheda* (differentiation/complication):

Chronicity or complications ensue, shifting the disease from *sādhya* (curable) to *kṛcchrasādhya* (difficult to cure) or *asādhya* (incurable).

Importantly, *Rakta* (blood) is identified as a primary *duṣya* in *Shiroroga*. Vitiated *Doshas* reaching the head also vitiate the local blood and blood vessels, explaining the vascular component of headache [15].

3.2.4 Clinical Features

The clinical picture of *Ardhavabhedaka* is distinctive:

- Unilateral pain: consistently affecting one half of the head.
- Pain quality: described as *śastra nibha* (cutting), *araṇi manthana vātā* (churning), *toda* (pricking), *sphuraṇa* (throbbing), and *sphuṭana* (bursting). Some references indicate burning pain, suggesting Pitta involvement.
- Sites: *manyā*, *bhrū*, *śaṅkha*, *karṇa*, *akṣi*, *lalāṭa*, *ghaṭa*, and *hanu* (jaw).

- Paroxysmal pattern: attacks occur every 10, 15, or 30 days, or irregularly.
- Associated symptoms: giddiness (*bhrama*); in severe cases, nausea, vomiting, photophobia, and phonophobia may occur.
- Prognosis: Acute, single-*Dosha* cases are curable; chronic or *triDoshaja* cases are difficult to cure; *śaṅkhaka* (a severe variant with temporal involvement) is considered incurable.

3.3. Management of *Shirashoola* and *Ardhavabhedaka*

3.3.1 General Principles

Management follows a three-pronged approach:

- Nidāna parivarjana: Avoidance of aetiological factors, including dietary and lifestyle triggers.
- Śodhana (purification): Because the head is an *ūrdhvajatra* site, *śirovirecana* (nasal medication) is the primary purification. *Vamana* (emesis), *virecana* (purgation), and *basti* (enema) are also used based on *Dosha*.
- Śamana (palliation): Oral medicines, local applications, and external therapies.

3.3.2 Specific Treatments by *Dosha*

- *Vātaja*: *Snehana*, *svēdana*, *nāvāna* (nasal instillation with unctuous substances), *lepa* with *Vāta*-pacifying herbs, *Rasnādi taila*, *Balādi taila*.
- *Pittaja*: *Ghṛtapāna* (medicated ghee), *śīta lepa* (cold poultices), *parisheka* (irrigation), *virecana*, *Candanādi pradeha*, *Yaṣṭyādi ghṛta*.
- *Kaphaja*: *Śirovirecana*, *vamana*, *dhūmapāna* (medicated smoking), *gandūṣa* (mouth gargling), *Kaṭṭhalādi nasya*, *Arkādi nasya*.
- *Ardhavabhedaka*: Charaka prescribes a comprehensive regimen including *catur-sneha* (four types of unctuous substances), *śirovirecana*, *kāyavirecana*, *nāḍīsvēda* (tubular fomentation), *ghṛta jīrṇa* (aged ghee), *basti*, *upanāha* (poultice), *śirobasti*, and *dahana* (cauterisation) [16].

3.3.3 *Pathya-Apathya* (Wholesome and Unwholesome Regimens)

Wholesome (*Pathya*):

- Diet: old *śāli* rice, *śaṣṭika śāli*, *yūṣa* (soup), milk, certain meats, *ghṛtapūra*.
- Vegetables: *paṭola*, *śigru*, *vāstuka*, *kāravallaka*.

- Fruits: mango, āmalakī, dāḍima, mātuluṅga, lemon, grapes, coconut.
- Liquids: milk, oil, coconut water, kañjī, takra (buttermilk).
- Herbs: *pathya*, *kuṣṭha*, *bhṛṅgarāja*, *kumārī*, *mustā*, *uśīra*, *karpūra*.

Unwholesome (*Apathya*):

- Suppression of natural urges (sneezing, yawning, urination, tears, defecation).
- Unwholesome diet: uncooked food, impure water, curd, lassi, cold drinks.
- Day sleep, excessive teeth-brushing.

3.4. Modern Correlates: Migraine

3.4.1 Clinical Features

Migraine, as defined by the International Headache Society, shares striking parallels with *Ardhavabhedaka*:

- Unilateral pain: occurs in about 60% of cases.
- Quality: throbbing/pulsating, corresponding to toda and sphuraṇa.
- Duration: 4–72 hours, reflecting the paroxysmal nature.
- Associated symptoms: nausea, vomiting, photophobia, phonophobia.
- Aura: visual or sensory disturbances occur in 20–30% of patients, aligning with the *bhrama* and prodromal features mentioned in Ayurvedic texts.

3.4.2 Pathophysiological Correlations

Modern understanding of migraine provides a framework for interpreting Ayurvedic concepts:

- Vascular theory: Initial vasoconstriction (aura) followed by vasodilation (headache) parallels the Ayurvedic emphasis on rakta (blood) and sira (vessels) involvement [17].
- Trigeminovascular system: Activation of trigeminal nerve and release of CGRP and substance P lead to neurogenic inflammation a process that can be viewed as the modern correlate of Dosh-induced inflammation.
- Serotonergic abnormalities: Fluctuating serotonin levels correspond to the concept of vāta-mediated neurotransmitter imbalance.

- Cortical spreading depression: The slow wave of neuronal depolarisation mirrors the Ayurvedic description of Dosh propagation and the gradual spread of symptoms.

- Central sensitisation: Development of allodynia and chronicity aligns with the Ayurvedic progression from *sādhya* to *kṛcchrasādhya* stages.

3.4.3 Etiological Correlations

Many modern migraine triggers are explicitly listed as *nidānas* in Ayurvedic texts:

Ayurvedic Nidāna	Modern Trigger
Day sleep (<i>divāsvapna</i>)	Sleep pattern disruption
Night awakening (<i>rātrijāgarana</i>)	Sleep deprivation
Excessive sexual activity (<i>atimāithuna</i>)	Physical exertion
Suppression of urges (<i>vegavarodha</i>)	Stress, anxiety
Sun exposure (<i>ātapa</i>)	Bright light, heat
Eastern wind (<i>pūrvavāta</i>)	Weather changes
Loud talking (<i>uccabhāṣaṇa</i>)	Tension, stress
Heavy, sour foods (<i>guru, amla</i>)	Cheese, chocolate, citrus
Alcohol (<i>madya</i>)	Red wine, beer

IV. DISCUSSION

4.1. Synthesis of Ayurvedic and Modern Perspectives

The detailed analysis demonstrates that *Ardhavabhedaka* corresponds closely to migraine. This correlation spans clinical presentation, aetiology, pathophysiological concepts, and management principles. The variation among *acharyas* regarding Dosh involvement (*Vātaja*, *Vāta-Kaphaja*, or *Tridoshaja*) reflects the heterogeneous nature of migraine, which can present with different symptom profiles across individuals or even within the same person across attacks.

The emphasis on *Rakta* (blood) as a *duṣya* in *Shiroroga* predates modern vascular theories by centuries. Contemporary research confirms that vascular changes, particularly cranial vessel dilation and neurogenic inflammation, are central to migraine

pathogenesis. The Ayurvedic concept of *siras* (vessels) being affected provides a conceptual bridge to modern vascular mechanisms.

4.2. Clinical Implications

The Ayurvedic approach offers several clinically relevant insights:

- Individualised treatment: Classification by Dosha predominance allows personalised therapy, aligning with the modern emphasis on precision medicine.
- Preventive focus: Nidāna parivarjana and śodhana correspond to trigger avoidance and prophylactic strategies.
- Holistic management: Integration of diet, lifestyle, psychology (*sattvāvajaya*), and specific therapies addresses multiple dimensions, complementing pharmacological approaches.
- Early intervention: The recognition that treatment is most effective in early stages parallels modern observations that early acute treatment prevents central sensitisation and chronicity.

4.3. Therapeutic Opportunities

Ayurvedic pharmacopoeia contains numerous herbs (e.g., *bhr̥ṅgarāja*, *kuṣṭha*, *mustā*, *yaṣṭimadhu*) and formulations (*Rasnādi taila*, *Candanādi pradeha*, various *ghṛtas*) that warrant scientific investigation for mechanisms relevant to migraine. The practice of nasal administration (*nasya*) for headache is particularly intriguing, as the nasal route provides direct access to the trigeminovascular system.

4.4. Limitations and Future Directions

This review is limited by the interpretive nature of classical text analysis and the lack of direct empirical validation of the correlations drawn. Future research should include:

- Clinical trials evaluating Ayurvedic interventions for migraine using IHS diagnostic criteria.
- Pharmacological studies of Ayurvedic herbs for actions on CGRP, serotonin, and neurogenic inflammation.
- Comparative effectiveness research of integrated versus conventional treatment.
- Development of validated outcome measures that capture both Ayurvedic and modern endpoints.

V. CONCLUSION

The Ayurvedic understanding of *Shirashoola*, particularly *Ardhavabhedaka*, represents a sophisticated system of headache classification and management developed over millennia. The convergence between *Ardhavabhedaka* and modern concepts of migraine validates the clinical acumen of ancient Ayurvedic physicians.

The comprehensive Ayurvedic approach addressing aetiological factors, individual constitution, purification therapies, and lifestyle modifications offers valuable perspectives for contemporary headache care. As the global burden of headache disorders grows and the limitations of purely pharmacological approaches become apparent, the holistic framework of Ayurveda merits serious consideration for integration into comprehensive headache management.

The classical wisdom, combined with modern scientific validation, has the potential to enhance therapeutic options and improve outcomes for patients suffering from this ancient affliction.

REFERENCES

- [1] Charaka Samhita, Sutra Sthana 17. In: Sharma RK, Dash B, eds. *Charaka Samhita*. Varanasi: Chowkhamba Sanskrit Series Office; 2005.
- [2] Sushruta Samhita, Sharir Sthana 6. In: Bhishagratna KL, ed. *Sushruta Samhita*. Varanasi: Chowkhamba Sanskrit Series Office; 2004.
- [3] Ashtanga Hridaya, Uttara Sthana 24/58-59. In: Murthy KRS, ed. *Ashtanga Hridaya*. Varanasi: Chowkhamba Krishnadas Academy; 2007.
- [4] Charaka Samhita, Sutra Sthana 17/15. Chakrapani commentary. In: Yadavji T, ed. *Charaka Samhita with Chakrapani Commentary*. Varanasi: Chowkhamba Sanskrit Sansthan; 2008.
- [5] Sushruta Samhita, Uttara Tantra. Dalhana commentary. In: Acharya JT, ed. *Sushruta Samhita with Dalhana Commentary*. Varanasi: Chowkhamba Orientalia; 2009.
- [6] Sushruta Samhita, Uttara Tantra 42/81. In: Bhishagratna KL, ed. *Sushruta Samhita*. Varanasi: Chowkhamba Sanskrit Series Office; 2004.
- [7] Sushruta Samhita, Uttara Tantra 25. In: Bhishagratna KL, ed. *Sushruta Samhita*. Varanasi: Chowkhamba Sanskrit Series Office; 2004.

- [8] Charaka Samhita, Sutra Sthana 17. In: Sharma RK, Dash B, eds. *Charaka Samhita*. Varanasi: Chowkhamba Sanskrit Series Office; 2005.
- [9] Charaka Samhita, Siddhi Sthana 9. In: Sharma RK, Dash B, eds. *Charaka Samhita*. Varanasi: Chowkhamba Sanskrit Series Office; 2005.
- [10] Ashtanga Hridaya, Uttara Sthana 23. In: Murthy KRS, ed. *Ashtanga Hridaya*. Varanasi: Chowkhamba Krishnadas Academy; 2007.
- [11] Charaka Samhita, Sutra Sthana 7/16. Chakrapani commentary. In: Yadavji T, ed. *Charaka Samhita with Chakrapani Commentary*. Varanasi: Chowkhamba Sanskrit Sansthan; 2008.
- [12] Sushruta Samhita, Uttara Tantra 25/15-16. In: Bhishagratna KL, ed. *Sushruta Samhita*. Varanasi: Chowkhamba Sanskrit Series Office; 2004.
- [13] Charaka Samhita, Siddhi Sthana 9/74-78. In: Sharma RK, Dash B, eds. *Charaka Samhita*. Varanasi: Chowkhamba Sanskrit Series Office; 2005.
- [14] Ashtanga Hridaya, Sutra Sthana 29/6. In: Murthy KRS, ed. *Ashtanga Hridaya*. Varanasi: Chowkhamba Krishnadas Academy; 2007.
- [15] Charaka Samhita, Sutra Sthana 17/11-18. In: Sharma RK, Dash B, eds. *Charaka Samhita*. Varanasi: Chowkhamba Sanskrit Series Office; 2005.
- [16] Charaka Samhita, Siddhi Sthana 9/77-78. In: Sharma RK, Dash B, eds. *Charaka Samhita*. Varanasi: Chowkhamba Sanskrit Series Office; 2005.
- [17] Wolff HG. *Headache and Other Head Pain*. New York: Oxford University Press; 1963.