



# Understanding Migraine Through The Lens Of Ardhavabhedaka: A Conceptual Review

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## ABSTRACT:

### Introduction:

Ardhavabhedaka, a Shiroroga described in Ayurveda, is characterised by recurrent unilateral headache and closely resembles migraine, a common neurovascular disorder. Similar clinical features and triggering factors suggest a strong correlation between the two conditions.

### Materials and Methods:

Classical Ayurvedic texts were reviewed to analyse the Nidana, Samprapti, and Lakshana of Ardhavabhedaka. Modern medical literature on migraine was examined to establish a comparative pathogenetic correlation.

### Results:

Ardhavabhedaka is a Vata-predominant Tridoshaja disorder involving Rasa–Raktavaha Srotasa and localisation in Shira. Ayurvedic nidanas correspond with known migraine triggers. The samprapti correlates with cortical hyperexcitability, trigeminovascular activation, neurotransmitter imbalance, and neurogenic inflammation described in migraine.

### Discussion and Conclusion:

Ardhavabhedaka shows close conceptual and pathogenetic similarity with migraine. Ayurvedic understanding provides a holistic framework that parallels modern neurovascular mechanisms of migraine.

**KEYWORDS:** Ardhavabhedaka, Migraine , Shiroroga , Panchakarma, Ayurved, Vata

## INTRODUCTION:

Ayurveda, the science of life, emphasises both the preservation of health in healthy individuals and the treatment of disease in the diseased <sup>[1]</sup>. Maintenance of health is achieved through the equilibrium of Tridoshas - Vata, Pitta, and Kapha, which form the foundation of normal physiological functioning <sup>[2]</sup>. Among all body parts, Shira (head) is regarded as the Uttamanga, as it serves as the seat of Prana Vata, Alochaka Pitta, and Tarpaka Kapha. It houses vital structures such as the sense organs, brain, and Marmas, thereby making disorders of the head clinically important and potentially disabling <sup>[3]</sup>.

Acharya Sushruta has described eleven types of Shirorogas, of which Ardhavabhedaka is particularly significant due to its severity and recurrent nature. Acharya Vagbhata classified Ardhavabhedaka as a Vataja Shiroroga, characterised by intense pain affecting one half of the head. In modern medicine, migraine is defined as a unilateral, throbbing headache, often episodic and sometimes associated with aura. The close similarity in clinical features and episodic pattern establishes a strong correlation between migraine and Ardhavabhedaka.

The term Ardhavabhedaka is derived from two Sanskrit words: Ardha, meaning half, and Bheda, meaning splitting or piercing pain. Thus, Ardhavabhedaka denotes a condition characterised by severe, cutting pain localised to one half of the head <sup>[4]</sup>. Chakrapani, in his commentary, describes the condition as Ardhamastaka Vedana, highlighting its distinct unilateral presentation and intensity of pain <sup>[5]</sup>.

## MATERIALS AND METHODS:

A review of Ardhavabhedaka was conducted using classical Ayurvedic texts of the *Brihatrayee* and their commentaries. Information on migraine was collected from modern medical textbooks and published research articles. Relevant data from both sources were analysed to establish a comparative understanding of Ardhavabhedaka and migraine.

## DEFINITION OF ARDHAVABHEDAKA <sup>[6]</sup>:

Pain localised to one half of the head is described in Ayurveda as Ardhavabhedaka. Classical texts mention that when severe tearing, pricking, or piercing pain is experienced on one side of the head, often accompanied by giddiness, and occurs suddenly at periodic intervals such as every ten to fifteen days, the condition can be diagnosed as Ardhavabhedaka <sup>[7]</sup>. The sudden onset, unilateral distribution, and recurrent nature of pain are characteristic features of this disorder.

Classical Ayurvedic texts describe Ardhavabhedaka as a Tridoshaja disorder with predominant involvement of Vata Dosha, often associated with Kapha or Pitta. The disease is typically marked by recurrent episodes, chronic course, and exacerbation due to improper diet, lifestyle habits, and psychological stress, reflecting its multifactorial nature.

## ETIOLOGY (NIDANA):

Nidana Parivarjana is the first and most essential step in the prevention and management of Ardhavabhedaka, as causative factors play a key role in disease manifestation [8].

- Aharaja Nidana (Dietary Causes)
  - Excess intake of Rukṣhya bhojana (dry, coarse food)
  - Adhyasana (overeating or eating during indigestion)
  - Anashana (skipping meals/fasting)
  - Ati-ambupana (excessive water intake)
  - Ati-madyapana (excessive alcohol consumption)
- Viharaja Nidana (Lifestyle and Occupational Causes)
  - Exposure to Pragvata (easterly wind)
  - Excessive exposure to cold or frost
  - Sudden climatic changes, high altitude, barometric pressure variations
  - Vega-dharaṇa (suppression of natural urges), especially:
    - Mutra vega
    - Puriṣa vega
    - Kṣavathu vega
    - Nidra vega
  - Ayasa (excessive exertion or fatigue)
  - Diva swapna (daytime sleep)
  - Ratri jagaraṇa (night awakening)
  - Ati maithuna (excessive sexual activity)
  - Ati bhaṣya (excessive talking)
  - Exposure to asatmya gandha (foul odours) and unhygienic surroundings
  - Hormonal factors (menstrual cycle changes, oral contraceptive use)
- Manasika Nidana (Psychological Causes)
  - Mental stress
  - Anxiety and emotional disturbances

Acharya Charaka has specifically described the causative factors of Ardhavabhedaka and has emphasised suppression of natural urges, particularly Kshavathu Vega (suppressed sneezing), as an important Nidana for the disease. He has also clearly explained the Samprapti of Ardhavabhedaka (C.S. Siddhi Sthana 9/75).

Acharya Sushruta has not described specific Nidanas for Ardhavabhedaka; instead, his focus is mainly on the clinical features (Lakshana) of the condition.

Acharya Vagbhata has also not mentioned separate Nidanas for Ardhavabhedaka but has considered the general causative factors of Shiroroga as applicable to Ardhavabhedaka as well.

In other classical Ayurvedic texts, Ardhavabhedaka has not been elaborated in detail, indicating that its understanding is largely derived from the descriptions provided by Charaka and the general principles of Shiroroga.

Epidemiological studies have identified several common precipitating and aggravating factors for migraine. Psychological stress is the most frequently reported trigger and is known to precipitate migraine attacks in nearly 60% of patients<sup>[9], [10]</sup>. Other important triggers include mental strain, physical fatigue, disturbances in sleep (either excess or deprivation), hormonal fluctuations during the menstrual cycle, and environmental changes such as variations in weather and temperature. Frequent travel, exposure to strong odours, hunger, and alcohol intake are also recognised contributors.

The recurrence of migraine attacks may occur due to a lowered individual threshold or exposure to strong or repeated triggers. These triggers can be broadly classified as psychological, dietary, environmental, and hormonal factors<sup>[11]</sup>. Psychological factors include stress, mental exhaustion, and sleep disturbances. Dietary triggers involve sensitivity to certain food additives, excessive intake or sudden withdrawal of caffeine and alcohol. Environmental influences such as climate change, temperature variation, and strong smells further contribute, while factors like menstruation, skipping meals, excessive fatigue, and alterations in routine sleep patterns also play a significant role in triggering migraine episodes.

#### **PURVA ROOPA:**

Although specific Purvarupas (premonitory features) of Ardhavabhedaka are not distinctly described in the Ayurvedic classics, Madhava Nidana mentions certain general Purvarupas of Shiroroga. For Shirashoola, the premonitory features described include Iṣhat Daha (mild burning sensation) and Supti (numbness).

#### **RUPA:**

Pratyatma Lakṣaṇa of Ardhavabhedaka<sup>[12]</sup>:

Ardhavabhedaka is primarily characterised by Ardhamurdha Ruja (pain affecting one half of the head), which is considered the Pratyatma Lakṣhana (pathognomonic feature) of the disease. It is a Shoola-pradhana Shiroroga, where pain is the dominant clinical manifestation. The characteristic features of pain in Ardhavabhedaka can be understood under the following headings: site, nature, frequency, and associated symptoms.

##### **1. Site of Pain**

Pain in Ardhavabhedaka is typically unilateral and may involve one or more of the following regions:

- Ardhashira – one half of the head
- Manya – either side of the neck, especially the nape
- Bhru – eyebrows

- Shankha – temporal region, located midway between the eyebrow and the ear, as explained by Arunadatta
- Akṣhi – eyeball
- Lalata – frontal region
- Karna – ear
- Ghata – region above the Shankha
- Kandhara / Griva – cervical region
- Sankhamula – area below the temple

## 2. Nature of Pain

The pain experienced in Ardhavabhedaka is intense and varies in quality, often described as:

- Sastrarāṇi-nibham – pain resembling a sharp cutting instrument
- Arani-nibham – pain similar to being struck by lightning
- Bhedavat – splitting or breaking type of pain
- Todavat – pricking or stabbing sensation
- Niṣkarsana-vat – pulling or plucking-out type of pain

## 3. Frequency of Pain

The attacks of pain are recurrent and may follow a specific or irregular pattern:

- Paksatah – once in a fortnight
- Dasahatah – once every ten days
- Masatah – once a month
- Akasmat – occurring suddenly without a fixed periodicity

Classical Ayurvedic texts describe Ardhavabhedaka as a condition characterised by severe unilateral headache. According to Acharya Charaka, the pain affects one half of the head and commonly involves the neck, eyebrows, temporal region, ears, eyes, and forehead, with a sensation resembling cutting or piercing by sharp objects. Acharya Sushruta has described the pain as intense, tearing, and piercing, often associated with giddiness, and occurring at periodic intervals, such as every ten days or fortnight. Acharya Vagbhata further adds involvement of Ghata (occipital or parietal region) and other Shirogata Sandhis, emphasising the paroxysmal and self-subsiding nature of the attacks, which may occur fortnightly or monthly. The clinical presentation of Ardhavabhedaka closely resembles migraine, a chronic, recurrent neurovascular disorder characterised by unilateral, throbbing headache lasting 2–72 hours, with or without aura. Migraine is more prevalent in females, particularly during the reproductive age, suggesting a hormonal influence. The pain is often aggravated by physical activity and may be associated with visual disturbances, nausea, vomiting, and autonomic symptoms. Pathophysiologically, migraine involves neurovascular mechanisms with a significant role of serotonin and estrogen in pain modulation. Based on clinical presentation, migraine is commonly classified into migraine with aura and migraine without aura, with several other less common variants <sup>[13]</sup>.

**UPASHAYA – ANUPASHAYA:**

Upashaya refers to medicines, diet, and lifestyle measures that relieve disease by acting directly or indirectly on the causative factors or symptoms. In Ardhavabhedaka, measures such as Mardana, Snehana, Svedana, and Bandhana are beneficial, as they pacify aggravated Vata and reduce pain (*A.H. Uttara Tantra 23/61*). Anupashaya includes factors that aggravate the condition. Continued nidana sevana, such as improper diet, faulty lifestyle, stress, and environmental triggers, worsens the symptoms of Ardhavabhedaka <sup>[14]</sup>.

**SADHYASADHYATA:**

Classical texts do not specifically describe the prognosis of shirashoola. However, the outcome depends on severity, chronicity, and frequency of attacks. Early and appropriately managed cases are more manageable, whereas chronic and recurrent cases are difficult to treat.

**PATHOGENESIS (SAMPRAPTI)<sup>[15]</sup>:**

AYURVEDIC SAMPRAPTI	MODERN CORRELATION
Nidana Sevana (Ahara, Vihara, Manasa)	Trigger Factors (stress, fasting, sleep loss, hormones)
Vata Prakopa (± Pitta)	CNS Dysregulation (brainstem, hypothalamus)
Dosha Prasara via Rasa	Cortical Hyperexcitability & pain threshold lowering
Rasa–Rakta Dushti	Trigeminovascular System Activation
Srotodushti (Sanga)	Neurogenic Inflammation (CGRP, Substance-P)
Sthanasamshraya in Shira	Unilateral Trigeminal Nociceptor Sensitisation
Vyakti – Ardhavabhedaka (Bhedavat Shoola, Akshi/Bhru/Lalata Ruja)	Migraine Attack (throbbing unilateral pain, Nausea, Vomiting)
Bheda / Chronicity	Central Sensitisation (chronic migraine)

**Samprapti Ghataka of Ardhavabhedaka**

- **Dosha:** Tridoshaja(Su.Ut.25) Vata Kaphaja (Ch. Si. 9) Vataja (A.H.Ut.23/7-8)
- **Srotasa:** Rasa-Raktavaha Srotasa
- **Srotodushti:** Sanga, Vimargamana

- **Agnimandya:** Jatharagnimandya, Rakta Dhatvagnimandya
- **Udbhava:** Amashaya - Pakvashya
- **Sanchara:** Rasayani
- **Marga:** Abhyantara
- **Swabhava:** Ashukari
- **Adhithana:** Shira
- **Vyaktisthana:** Shira and its appendages

Stage (Ayurveda)	Ardhavabhedaka Features	Modern Migraine Stage
<b>Sanchaya (Accumulation)</b>	Initial Vata vitiation due to diet, stress and lifestyle	<b>Premonitory / Prodrome:</b> fatigue, mood changes, food cravings, neck stiffness
<b>Prakopa (Aggravation)</b>	Vata intensifies; Pitta/Kapha cause inflammation	<b>Aura (in some cases):</b> visual, sensory, or speech disturbances warning of headache
<b>Prasara (Spread)</b>	Doshas spread along the Shira channels; Rakta involvement	<b>Headache (Pain Phase):</b> unilateral throbbing, nausea, photophobia, phonophobia; 2–72 hrs
<b>SthanasamSraya (Localisation)</b>	Doshas localise in temples, eyebrows, eyes, and forehead; pain becomes unilateral	<b>Pain Phase (continued):</b> site-specific headache, may involve autonomic symptoms
<b>Vyakti (Manifestation)</b>	Severe piercing/sharp pain; giddiness, eye/ear involvement	<b>Resolution / Postdrome:</b> fatigue, mood changes, residual sensitivity; “migraine hangover”
<b>Bheda (Complication / Chronicity)</b>	Chronic recurrence may damage the eyes/ears; difficult to treat	<b>Chronic / Complicated Migraine:</b> >15 days/month, central sensitisation, disability, comorbidities

Migraine is currently understood as a neurovascular disorder, in which the pathological process originates within the brain and subsequently involves the cranial blood vessels. Increased excitability of the cerebral cortex and altered regulation of pain pathways in the trigeminal nucleus of the brainstem play a central role in migraine initiation. Reduced levels of the neurotransmitter serotonin (5-hydroxytryptamine) are believed to contribute to abnormal pain processing and vascular responses [16].

The mechanism of migraine pain is thought to involve a specific pain-generating centre in the brain. During an attack, hyperexcitable nerve cells transmit abnormal impulses to cranial blood vessels, leading to an initial vasoconstriction followed by vasodilatation. This vascular change is accompanied by the

release of inflammatory mediators such as prostaglandins and serotonin, which sensitize pain receptors and produce the characteristic throbbing and pulsatile headache of migraine.

### Management of Ardhavabhedaka (Ayurvedic Approach)

#### 1. Nidana Parivarjana (Avoidance of Triggers)

- Avoid dietary triggers: dry, heavy, spicy, fermented foods, alcohol, excessive water intake
- Correct lifestyle errors: sleep irregularities, overexertion, excessive coitus, stress, day sleeping, overnight waking
- Avoid environmental and psychological triggers: cold exposure, eastern wind, suppressed natural urges, hormonal fluctuations

#### 2. Shodhana Chikitsa (Detoxification / Purification)

- **Nasya Karma:** Administration of medicated oils (e.g., Brihat Dashmool Taila, Anu Taila, Shadbindu Taila) via nostrils to eliminate morbid Doshas from the head
- **Virechana (Purgation):** Mild purgation (Mridu Virechana) to remove vitiated Vata and Pitta
- **Basti (Medicated Enema):** Niruha or Anuvasana Basti to pacify Vata and systemic Dosha imbalance
- **Shirobasti:** Medicated oil retention on the head for local Vata and Kapha pacification

#### 3. Shamana Chikitsa (Palliative / Symptomatic Management)

- **Shirolepa / Lepa:** Application of pastes with herbs like Sariva, Madana, Utpala, Vacha, Amalaki, and Ghrita/Taila
- **Shirodhara:** Continuous pouring of medicated oils on the forehead for neurological and mental relaxation
- **Dhoopana (Fumigation):** Use of herbal smoke therapy for Vata-Kapha balance
- **Dietary therapy:** Light, unctuous, warm foods; use of Ghrita, milk, and rice-based diet
- **Lifestyle & Yoga:** Stress management, meditation, controlled exercise, and relaxation techniques

#### 4. Rasayana / Medhya Therapy

- Medhya Rasayana to improve neurological resilience, cognitive function, and prevent recurrence.

### DISCUSSION:

Ardhavabhedaka described in Ayurvedic classics, closely resembles migraine in its unilateral presentation, recurrent attacks, severity of pain, and associated symptoms such as giddiness and sensory disturbances. The predominance of Vata Dosha explains the intense and paroxysmal nature of pain, while the involvement of Pitta, Kapha, and Rakta accounts for inflammatory features and associated symptoms. Classical Nidanas such as faulty diet, lifestyle irregularities, suppression of natural urges, psychological stress, and environmental factors show strong similarity to known migraine triggers in modern medicine. While contemporary treatment mainly focuses on symptomatic relief and prevention

of attacks, Ayurveda emphasizes a comprehensive approach targeting the root cause through Nidana Parivarjana, Shodhana, Shamana, and lifestyle modification.

## CONCLUSION:

Ardhavabhedaka can be effectively correlated with migraine based on its clinical features and disease pattern. Ayurveda offers a holistic and individualised management strategy that not only alleviates symptoms but also helps in preventing recurrence. Through avoidance of causative factors, purification therapies, palliative measures, and supportive Rasayana therapy, Ayurveda provides a sustainable and long-term approach to the management of migraine-like disorders.

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