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## Prevention of Ardhavabhedaka (Migraine) by means of diet and lifestyle modification

**Singh Shani, Singh Vineeta and Bhushan Shakti**

### **Abstract**

In the current scenario the burden of Ardhavabhedaka continues to increase gradually, due to rapidly changing disturbances in the living style and behavior pattern of people. It is described under shiroroga which occurs due to vitiation of all the three doshas. According to contemporary perspective Ardhavabhedaka can be correlated with Migraine. This condition is characterized by the unilateral headache with paroxysmal nature and associated with symptoms like photophobia, nausea, vomiting, and sensory abnormalities. Migraine accounts for 16% of the primary headache and affects 10-20% of the general population as listed by IHS. It has negative impact on quality of life and economy of individual & family. In spite of advanced technology and researches, the advanced medication is failing to give the best outcome over the Ardhavabhedaka. Thus there is dire need of multidimensional non pharmacological methods for precluding of it. By wholesome diet, regular exercises, apt sleep and certain yogic practices like Asanas, Pranayama, and Meditation play significant role in management as well as further progress of Ardhavabhedaka.

**Keywords:** Ardhavabhedaka, Migraine, Pathya-aphya, Yoga

### **Introduction**

In Ayurveda 'Ardhavabhedaka' is depicted as a sadhya kind of shiroroga. This is characterized by severe pricking and tearing pain in half portion of head with dizziness, abruptly after a fortnight or ten days<sup>[1]</sup>. This ailment mainly arises due to vitiation of tridosha. Pathya Ahara (Wholesome diet) and Pathya Vihara (Wholesome lifestyle) are considered to be the primary reasons to sustain homeostasis of all doshas. If an individual does not regulate his daily regimen, undoubtedly he/she suffers from diseases. In modern perspectives it is correlated with 'Migraine', characterized as recurrent headache and varied range of symptoms seen during an attack. Mild to severe migraine might accompany with nausea, vomiting, sensitivity to bright light (photophobia) and noise (phonophobia). Assault of Migraine appears to result from patho-physiological mechanisms triggered by specific eliciting factors. Genetic and environmental factors, irregular lifestyle also plays a significant role in precipitation of malady. This disease significantly influences the quality of life. Various researches shown that the prevalence of Migraine significantly increases due to various triggering factors and most of them are related with variety of dietary stuffs, daily routine and emotional factors etc.

### **Etymology**

The word Ardhavabhedaka has two components viz. Ardha and Avabhedaka. Ardha implies half or half side, Ava- bad prognosis, and Bhedaka- breaking through, perforating, or bursting out kind of pain. Hence literal meaning of Ardhavabhedaka is perforating or bursting type of pain in one half of the head either left or right. According to Chakrapani, Ardhavabhedaka means "Ardha Mastaka Vedana" (headache on half part of head)

### **Definition of Ardhavabhedaka**

As per Acharya Sushruta, Ardhavabhedaka denotes pain in half of the head which is splitting, pricking, churning, piercing nature develop at interval of either fortnight or ten days due to vitiation of all the three doshas.

### **Nidana (Etiology) of Ardhavabhedaka**<sup>[2]</sup>

The etiological factors of Ardhavabhedaka may be classified on the basis of vitiating of Doshas as given as:

**Vata vitiating factors:** Ruksha ahara (unctuous diet), Purvi and sheeta vayu (expose to eastern wind and frost), Vegadharana (Suppression of natural urges)

**Pitta vitiating factors:** Atapa sevana (Exposure to sun)

**Kapha vitiating factors** Day sleep, Intake of cold food

**Manashika Nidana** - Manasa Santapa

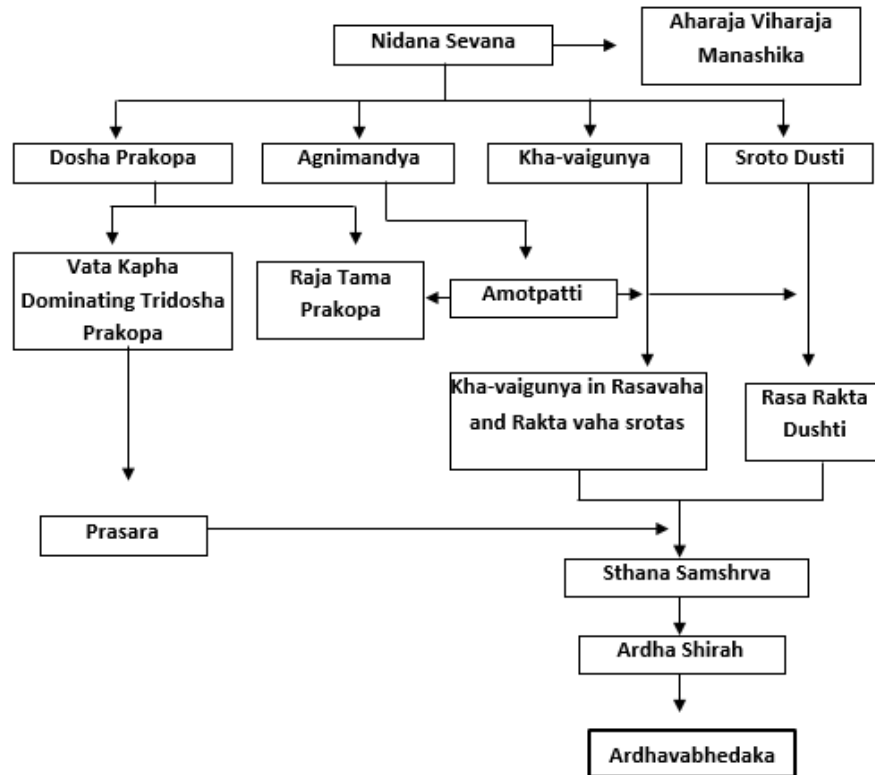
### Rupa (Symptoms) of Ardhavabhedaka

Acharya Charaka states that Ardhavabhedaka is one sort of shirah shoola where arani manthanavat shola (Churning type of pain) is experienced in unilateral part of the head involving

bhru, akshi, lalata etc. triggered by vata alone or in combination with kapha [3]. Vagbhata has said Ghata (occipital region according to Indu and Parietal region according to Arundatta) and all the Shirogata Sandhis in addition where the pain arises.

### Samprapti (Pathogenesis) of Ardhavabhedaka (Migraine):

Numerous Nidana factors vitiate either Vata alone or associated with Kapha invades the half portion of the head and causes ardhavabhedaka



### Samprapti Ghataka of Ardhavabhedaka (Migraine)

**Dosha** - Tridoshaja (Su.U.25), Vata Kaphaja (Ch. Si. 9)

**Dushya** - Rasa, Rakta

**Agni** – Mandagni

**Srotas** - Rasavaha, Raktavaha srotasa

**Srotasdusti** – Sanga, Vimargagamana

**Adhithana** – Shirah (Head)

**Udhhavasthana** – Amashaya, Pakvasaya

**Marga** - Abhyantara

**Svabhava** - Ashukari

**Sadhyata-Asadthyata** – Sadhya

**Adhithana** – Shirah (Head)

• **Vyaktisthana** - Shirah and its appendages

Shirah (head) and its appendages like Manya, Bhru, Shankha, Karna, Akshi, Lalata, Ghata, Hanu and Shirogata Sandhi can be considered as Vyakti sthana of Ardhavabhedaka

### Contemporary Perspective of Ardhavabhedaka (Migraine)

Migraine is well-defined as a disorder characterized by intermittent headache episodes, accompanied with nausea, photophobia and/or phonophobia [4]. It exists as the second most basic reason for vascular headache which influences almost 15% or approximately one billion individuals around the world. It occurs more commonly in female (19%) than men (11%) [5]. In the United States, near by 6% of male and

18% of female get a headache in a given year, with life time risk about 18% and 43% respectively [6]. Ordinarily the headache is one-sided (influencing one portion of the head) and throbbing in character, enduring from 2 to 72 hours. Nausea, vomiting, photophobia, phonophobia are associated symptoms and pain is aggravated by physical activities. Up to one-third of individuals with migraine acknowledge an aura: a transient visual, language, sensory, or motor disturbance influence which flags that the headache will soon take place [7]. Occasionally an aura can arise with little or no headache. Migraine Headache assaults appears to result from pathophysiological mechanism actuated by explicit trigger factors. Migraine recurrence bouts may rely either upon on a lessen threshold or on especially strong or continuous trigger elements or both [8]. Biochemical research has given proof to certain physiologic attributes in migraineurs, which have been suggest as inclining factors for migraine. These incorporate platelet activation, platelet serotonin (5-HT) metabolism, and expanded sensitivity to nitric oxide (NO) donors, diminished levels of metabolic proteins, anomalous opiate receptor work, and electro-encephalographic (EEG) irregularities [9].

### Phases of Migraine [10]

Migraines usually accounts with self-limited, intermittent severe headache accompanying with autonomic symptoms [11].

Around 15-30% of people having migraines involve migraines with an aura along with those who have migraines with aura also often have migraines in absence of aura [12]. The severity of the pain, period of the headache, and occurrence of attacks is different in level. A migraine enduring more than 72 hours is named status migrainous [13]. There are four potential phases to a migraine, in spite of the fact that not all the stages are essentially experienced [14]:

1. The prodromal, which arises hours or days before the headache
2. The aura, which instantly rises the migraine
3. The pain phase, also well-known as headache phase
4. The post-dromal, the impacts experienced after the end of a migraine attack

### Etiology of Migraine

Factors which trigger the migraine headache are as follows [15]:

#### Physical Factors

Lassitude, vigorous physically activities, too ample or too little sleep, sitting in front of the TV, staring at the PC screen or other illuminated substances, travelling

#### Dietetic Factors

Long interval between meals, dehydration, fasting, chocolate, cheese and other dairy items, liquor predominantly red wine, coffee, tea, ice cream, cold drink, nut, citrus fruits, onion, sea food, fast food, spicy food, monosodium glutamate (utilized as an additive in many prepared food), Nitrates or Tyramine comprising food stuffs, Aspartame (dietary sweetener)

#### Environmental factors

Bright light, flickering/ flashing light, uproarious noise, intense or powerful smells, smoking, warm atmosphere, and change of weather / climate

#### Emotional factors

Anxiety, strain, depression, shock, excitement, stress, and drastic changes in daily schedule.

#### Hormonal factors [16]

Puberty, menstruation and the premenstrual period, pregnancy, contraceptive pill, menopause / Hormone replacement therapy

#### Medications

Anti-hypertensive (nifedipine, prazosin, captopril, minoxidil, reserpine), Vasodilators (nitroglycerin, isosorbide dinitrate), Selective Serotonin Reuptake Inhibitors, Antibiotics (trimethoprim-sulfa, griseofulvin)

**Other Factors** - Reduced magnesium levels, female hormones progesterone and estrogens, stress, hypertension

#### Classification of Migraine [17]

IHS classification system identifies several subtypes of migraine with aura and several other specific types of migraine, which are as below:

#### International Headache Society (IHS) Classification of Migraine:

1. Migraine without aura
2. Migraine with aura
  - (a) Migraine with typical aura
  - (b) Migraine with prolonged aura

- (c) Familial hemiplegic migraine
- (d) Basilar migraine
- (e) Migraine aura without headache
- (f) Migraine with acute onset aura

3. Ophthalmoplegic migraine
4. Retinal migraine
5. Childhood periodic syndrome that may be precursors to or associated with migraine
  - (a) Benign paroxysmal vertigo of childhood
  - (b) Alternating hemiplegia of childhood
6. Complications of migraine
  - (a) Status migrainous
  - (b) Migrainous infarction
7. Migrainous disorders not fulfilling above criteria

#### Clinical Features of Migraine [18]

##### 1) Migraine with Aura (Classical Migraine):

- In this syndrome, Headache is linked with characteristic premonitory, sensory, motor, or visual symptoms. The most common premonitory symptoms reported are Visual, arising from dysfunction of occipital lobe. Sensory Symptoms are numbness, tingling sensation, speech or language disturbances, vertigo, photophobia etc. Motor Symptoms include mood changes and vegetative changes. Headache in Classical Migraine may be hemi cranial or soon becomes generalized. It starts as vague pain and builds up to a throbbing intensity associated with pallor, anorexia, nausea, vomiting, and photophobia. This may last for several hours and after vomiting has occurred, may decrease in intensity and be followed by sleep. In some, headache persists for 48 hours or more.

##### 2) Migraine without Aura (Common Migraine):

- In this syndrome, no focal neurological disturbance leads up to the recurrent headaches. It is by far the more frequent type of vascular headache. Characterized by moderate to severe headaches, pulsating quality, unilateral location, aggravation by menstruation, stress, walking stairs and similarly routine activities, attendant nausea and/or vomiting, photophobia and phonophobia and multiple attacks, each lasting 4 to 12 hours.

##### 3) Basilar Migraine:

- Symptoms referable to a disturbance in brainstem function, such as vertigo, dysarthria or diplopia, take place as the only neurological symptoms of the attack in about 25% of the patients. A dramatic form of basilar migraine also known as Bickerstaff's Migraine occurs primarily in adolescent females. Episodes begin with total blindness accompanied or followed by admixtures of Vertigo, Ataxia, dysarthria, Tinnitus and distal and perioral paresthesia. In about one quarter of the patients, a confessional state supervenes. The neurological symptoms usually persist for 20 to 30 minutes and are generally followed by a throbbing occipital headache. This basilar migraine syndrome is now known to also occur in children and in adults over age 50.

##### 4) Carotidynia

It is occasionally called as lower half headache or facial migraine, and most commonly seen among older patients,

with the peak incidence in the 4<sup>th</sup>-6<sup>th</sup> decades. Pain is generally found at the Jaw and neck, while sometimes periorbital or maxillary pain occurs, it might be continuous, deep, dull, aching and converts pounding or throbbing episodically. Over 50% of patients along with frequent migraine strikes are found to have carotid tenderness of several points on the side most commonly involved during hemicrania migraine attacks. Dental trauma is a common cause and aggravating factor of this syndrome.

### 5. Ophthalmoplegic Migraine

In this type, recurrent attacks of headache is present which is accompanying with paralysis of one or more oculomotor nerves, frequently persisting for days or weeks after the attack and sometimes tending to become permanent.

### 6. Retinal Migraine

Retinal vascular lesions in migraine are fortunately rare. Thrombosis of the central retinal artery and of single branches may occur and recurrent attacks of retinal ischaemia may lead to bilateral optic atrophy due to ischaemic papillopathy.

Retinal and vitreous hemorrhages may also occur.

### 7. Hemiplegic and Facioplegic Migraine

This is very rare. It occurs probably due to ischaemia of the nerve trunk or compression of it by a dilated artery as in ophthalmoplegic migraine.

### 8. Childhood Periodic Syndromes

Childhood periodic syndromes may be predecessors to or associated with migraine – benign paroxysmal vertigo of childhood, alternating hemiplegia of childhood.

### Principles for Prevention of Ardhavabhedaka (Migraine):

It includes:

1. Nidana parivarjana
2. Pathya Ahara-Vihara
3. Yogic Practices

Ayurveda emphasizes more on the importance of Diet and Lifestyle in the maintenance of health and prevention of lifestyle diseases. The main principles are as follows:

- 1) Pathya- Apathya (Dietary Regimen) <sup>[19]</sup>

S. No.	Classes of Diet	Pathya (Do's)	Apathya (Dont's)
1	Cereals	Rice of Old Shali, Shathi variety	Godhuma (Wheat)
2	Pulses	Mudga (Green gram), Masa (Black gram), Kulattha (Horse gram)	Adhaki (Red gram)
3	Vegetables	Patola (Pointed Guard) , Shigru (Drumstick), Bathua (Green leafy brigade), Karvellaka (Bitter guard)	Jambir (Lemon), Palandu (Onion)
4	Fruits	Amra(Mango), Amalaki (Indian gooseberry), Dadima (Pomegranate), Drakshaphala (Grapes) , Narikela(Coconut)	Apple Kadaliphala(Banana), Peanut
5	Milk and milk products	Goghrita (Cowghrita), Godugdha (Cowmilk)	Dadhi (Curd)
6	Sugarcane and its products	Sugar, Honey	-
7	Drinks	Water, Takra (Butter milk), Kanji, Yusha (Soup)	Liquor
8	Spices	Rasona (Garlic), Jiraka (Cumin), Shringerver (Ginger), Haridra (Turmeric), Clove, Peppermint	Hingu (Asafoetida), chilli, Sarsapa(Mustard Seeds)
9	Oils	Sunflower, Coconut oil	Mustard oil, Sesame oil
10	Others	Coconut water, Kushta (Indian Costus root), Bhringaraj (False daisy), Kumari (Aloe Vera), Musta (Nut Grass), Ushira (Vetiver), Karpura (Camphor)	Cold drinks, Coffee, Tea, Ice-cream, Chocolate, Alcoholic beverage, Red Wine, buttermilk and cream, processed cheeses

### 2) Physical Regimen

**Pathya** – Brahamuhurta Jagarana (Early morning awaking), Samyaka Nidra (Proper sleep), Nitya Bhramana(Daily walking), Upvasa (Fasting), Nasyakarma(Nasal irrigation), Dhumpna (Medicated smoking), Svedana (Hot sudation)

**Apathya** -Adharniya Vegadharana (Suppression of natural urges), Atapa Sevan (Excessive Sunlight exposure), Divaswapna (Day-time sleep)

### 3) Mental Regimen

**Pathya** – Mana and indriya prsannata (Pleasure)

**Apathya** – Chinta (Excessive worried), Shoka (Depressed), Krodha(Anger)

### Beneficial Yogic Practices in Migraine

Yoga passes on benefits either by enhancing the body resistance against triggering factors or by delivering the tranquility to the mind. Migraine is a psychosomatic disorder and one of the leading causes is stress. Yogic theory also

propound that this disorder take place only in persons whose minds are uneasy all the time. Once the mind which orchestrates the senses and organs of perception is kept calm, headaches do not occur. Yoga works by enhancing the circulation and soothing the sympathetic nerves. No other exercise work at the cellular level in the manner in which yoga does. Regular practice of asanas reduces the incidence and severity of attacks. Practice of Meditation is required for introverting the senses and mind. This accounts to a peaceful Neuro-physiological state.

### Effect of Asanas in migraine:

Practice of specific Asanas in migraine assist to reduce stress, and some give strength to body against triggering factors. The stress unleashing Shavasana <sup>[20]</sup> and Makrasana <sup>[21]</sup> give mental relaxation and helps to lessen the physical and psychological stressors. The practice of Tadasana, Paschimottanasana, Pawanmuktasana and Bhujangasana improve appetite and leads to a number of physiological and biochemical changes in abdominal viscera and endocrine

glands.

**Effect of Pranayama in migraine:** Pranayama imparts calming effect to the brain by improving its blood supply and oxygen supply. In Migraine context the Nadi shodhana and Bhramari pranayama are beneficial. They balance the sympathetic and parasympathetic nervous systems and decrease stress, cerebral tensions, anxiety annoyance, and insomnia<sup>[22][23]</sup>.

**Effect of Meditation in migraine:** Meditation imparts the feeling of tranquillity and liberty in daily life. It eases depression, anxiety, insomnia, and various pains including headache.

### Conclusion

Migraine is psychosomatic disorder can be correlated with Ardhavabhedaka. It is occurring most frequently due to adoption of faulty lifestyle, anxiety, depression, stress etc. in the busy schedule of human beings. With only use of medicines it could not be possible to prevent and control this disease. Large numbers of the modern medicines employed for treatment of this disease are restricted to suppress the symptoms only. A repeated and long term use of such drugs begins to cause serious and significant side effects. Therefore, search for safe and effective non-pharmacological approaches is the prime need of the day. Ayurveda emphasises more on both nidana-parivarjana and Pathya Ahara-Vihara intake for any disease management. Contraindication of Apathya Ahara-Vihara can reduce the symptoms of this disease. It can be prevented if intervention in the form of Pathya Ahara and yogic practices are applied in initial stage. Daily practice of selected yogasana and pranayama decrease Ardhavabhedaka pain by remove the stress and by sympathetic activity of nervous system.

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