

# Potential implications of Ayurvedic treatment along with *Marma chikitsa* and Indian classical music therapy in *Ardhavabhedak* i.e (Migraine without aura)

## Case Report

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## Abstract

The brain is the most complex organ of the human body. It is the crown jewel of the body as it performs various essential functions. Globally, headache disorders affect approximately 40% of the population, nearly 3.1 billion people in 2021(1). It is more common in females as compared to males. Headache disorders ranked third (after stroke and dementia) in accounting for overall neurological disease burden as measured by age-standardized disability-adjusted life years (DALYs) in 2019. It comes with a constellation of things that it impacts person's activities of daily living and affect their ability to do things that they love the most. Migraine without aura is a recurrent and debilitating disorder having pulsatile, unilateral moderate to severe headache lasting from 2-72 hours. Associated symptoms include nausea, vomiting, photosensitivity and phonosensitivity. In Ayurveda it is correlated with one of the *Shirorogas* i.e *Ardhavabhedak*. According to Acharya Charaka it is *Vata-Kaphaja* and according to Acharya Sushruta it is *Tridoshaja vyadhi*. In this case study, a male patient of middle age suffering from chronic severe migraine was treated with the Ayurveda medications and *panchakarma* resulting in significant relief. An additional *Marma chikitsa* and Indian classical music i.e *Raga Mohanam* therapy was also given. The integrative treatment modality has shown significant relief in reducing the episodes and intensity of pain of Migraine (*Ardhavabhedak*).

**Keywords:** *Ardhavabhedak*, Migraine, *Nasya*, *Marma chikitsa*, *Raga Mohanam*.

## Introduction

Migraine is a neurovascular disorder associated with the symptoms of nausea, vomiting, giddiness and photophobia i.e sensitivity to light. The main clinical feature of migraine includes unilateral headache i.e. pain at one side of face, photosensitivity, phonosensitivity. The disease is chronic and having episodic pain triggered because of stress, habits of alcohol, smoking, sleep deprivation, untimely food habits and certain medicines. It is the second most common type of headache which is affecting the 40% of population. People are taking over the counter medications to treat their pain for multiple times a day or even on daily basis. In the last decade there has been dozens of new treatments like NSAIDs, Triptans and Diatons, CGRP monoclonal antibodies etc. for migraine but it gives symptomatic relief only. The exact cause of migraine is not fully understood, but they are believed to involve a combination of genetic, environmental, and

neurochemical factors. It is thought that changes in the brainstem and its interactions with the trigeminal nerve, a major pain pathway, play a key role in initiating migraines. Additionally, abnormalities in serotonin levels and other neurotransmitters may contribute to the development of migraine attacks. Migraines can be classified into several types, with the most common being migraine with aura and migraine without aura. Aura refers to a transient neurological symptom that usually precedes the headache and can lead to visual disturbances, such as flashing lights or blind spots, sensory disturbances, or speech difficulties. Migraine without aura is the most common type. In *Sushruta Samhita* it is described under the 11 *Shirorogas* and termed as *Ardhavabhedak* i.e pain on the half side of head. According to Acharya Sushruta it is a *Tridoshaja vyadhi* while Acharya Charak says it is *Vataja* or *Vata-kaphaja* and according to *Ashtang Hridaya* it is predominantly a *Vataja vyadhi*. '*Shiras*' the head is considered as *Uttamanga* or *Pradhananga* by Acharyas. It is also considered under *Trimarma* as various vital functions takes place at brain tissues. It is a complex organ which controls all functions of the body.

In *Sushruta Samhita Uttarasthana*, *Ardhavabhedak* has been explained with symptom of pain presenting on half side of head having *bheda* (throbbing), *toda* (pricking) nature of pain with *bhrama* (vertigo) and occurs in 10 or 15 days (2). *Ayurveda*

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emphasizes on various treatment modalities in *Ardhavabhedhak* which includes *shodhan* and *shaman chikitsa*. *Marma chikitsa* which is an ancient Indian healing practice uses pressure points on body to treat ailments. Indian classical music therapy which is soothing in nature expressed as *Ragas*, plays the important role as stress relievers. Both these therapies have been incorporated along with the traditional ayurvedic treatment for the effective management of *Ardhavabhedhak*.

## Case Report

A 43 year old male patient visited to Dr. D. Y Patil College of Ayurveda and Research Centre in *Kayachikitsa* OPD on 9/2/2024 having chief complaints of severe unilateral headache on right side of face, periorbital region throbbing pain, hyperacidity and giddiness since 2 years. The frequency of migraine attack was 4-5 times monthly. The symptoms used to get worse during stress and sleep deprivation and during neck movements also. Patient was reluctant to take allopathic medicine so he came to our OPD for better relief and for improving quality of life.

- **Family history:** No k/c/o DM, HTN, Hypothyroidism, Asthma etc.
- **Personal history:** Patient was taking Tab. Headset 1-0-0 for 2 years. Tab. Betacap TR 40mg 1-0-0 since 1year. Tab. Calpol 500 mg SOS.
- **Habits:** Alcohol intake since 5 years. Patient was taking alcohol frequently i.e 3 -4 times monthly and also if stressed out.
- **Occupation:** Job in private company.
- **Drug allergy:** No any drug allergy was noted.
- **General Examination:** Bp-100/60mmhg, P-67/min, Spo2-98%, PA-Soft and non-tender
- **Systemic Examination:** Respiratory System – Air Entry Bilaterally Equal, Cardiovascular System -S1S2 heard, Central Nervous System – Conscious and oriented

## Local Examination

Periorbital region tenderness, No facial deviation.

- **Vision:** Patient was wearing spectacles for myopia of both eyes. Fundus examination is normal. Photophobia was present.
- **Duration of headache:** 2 years
- **Frequency of attacks:** 4-5 attacks in a month
- **Severity of headache:** Moderate to severe (Patient has to take medicine for the pain unless he could not do work or difficulty to do daily work and frequently headache was associated with giddiness.
- **Duration of each attack:** 6-12 hours/day
- **Site:** Unilateral (Frontal and Parietal region)
- **Character of pain:** Migrating
- **Nature of pain:** Severe (VAS score-9) patient told that it was pulsatile and often starts with heaviness in head.
- **Associated symptoms:** Nausea, Vomiting
- **Stress factors:** Occupational Stress

**Table 1: Ashtavidha Parikshan- Eight fold examination parameters**

Nadi (Pulse)	Vatapradhan Pittaja ,80/min
Mala	Asamadhankarak ( unsatisfactory, 2-3 times a day)
Mutra	Prakrut
Jivha	Sama
Kshudha	Kshudhamandya (Patient's eating habits was changed and eating quantity and frequency was decreased)
Trishna	Prakrut
Nidra	Alpa
Akriti	Madhyam (Medium built)

## Materials and Methods

Study design – A Single case study

Written informed consent was taken from patient prior to the treatment. Patient diagnosed with Migraine with clinical symptoms of headache, nausea, vomiting, photophobia and aura was assessed on subjective parameters before treatment and subsequently on every follow up. Other systemic diseases and other external factors precipitating as headache were excluded.

**Table 2: Investigations Done**

Investigations	Result
Hb	14.3 gm
TLC	5400/cumm
DLC	N-30,L-20,E-4,M-2,B-0
ESR	24 mm/hr
FBS	115 mg/dl
Urine routine	Normal
CT brain	No any intracranial abnormality seen

## Treatment Intervention

*Shaman chikitsa* and *Shodhan chikitsa (Nasya)* were administered to the patient along with *Marma chikitsa*. The patient was advised to listen *Raga Mohanam* for about 10-15 mins daily in morning and before going to sleep at night time. The details of the treatment is given in Table no. 3

**Table 3: Ayurvedic Treatment**

Date	Medicine	Dose	Time	Anupana
9/2/24 to 25/2/24	Suvarna Sootshekhar Ras	125mg 1-0-0 On alternate day	Before breakfast	Koshna jal
	Praval Panchamrut 250mg	250mg 2-0-2	Before food	Koshna jal
	Pathyadi kashaya	40ml -0 -40ml	After food	Koshna jal
	Avipattikar churna	0-0-3gm	At night	Koshna jal
	Nasya with Anu tail	3 drops in each nostril	Morning	-

**Table 4: Marma Chikitsa and Raga Mohanam Treatment**

Standard Operating Procedure for *Marma chikitsa* and *Raga Mohanam* - The patient should be comfortable in a relaxed position and the *marma* points are to be massaged with gentle pressure for 0.4 sec clockwise and 0.4 sec anticlockwise, twice daily for 15days. *Raga Mohanam* to be heard in a relaxed state of mind for 10-15 minutes in the morning after waking up and at night before sleep.

<i>Marma chikitsa</i>	Stimulation time	Sittings of <i>Marma chikitsa</i>	Total duration
1. <i>Vidhura</i>	0.8 sec	Two times per day	15 days
2. <i>Apanga</i>	0.8 sec	Two times per day	15 days
3. <i>Avarta</i>	0.8 sec	Two times per day	15 days
4. <i>Sthapani</i>	0.8 sec	Two times per day	15 days
5. <i>Simant</i>	0.8 sec	Two times per day	15 days
6. <i>Shringatak</i>	0.8 sec	Two times per day	15 days
7. <i>Adhipati</i>	0.8 sec	Two times per day	15 days
8. <i>Phana</i>	0.8 sec	Two times per day	15 days
<i>Raga Mohanam</i>	10-15 min	Two times per day	15 days

#### **Pathya Apathya:**

Diet was advised to the patient as per ayurveda principles which will not vitiate the *vata* and *pitta dosha*. Alcohol, smoking, spicy and oily food was restricted. Patient had a habit of consumption of coffee many times during working hours. His coffee intake was also restricted.

#### **Criteria for assessment**

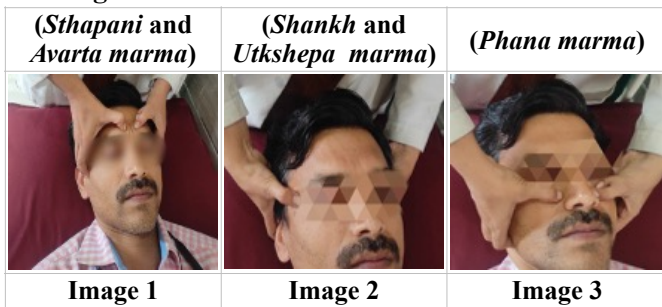
**Table 6: Result and analysis**

Signs and symptoms	Before treatment	1 <sup>st</sup> week	2 <sup>nd</sup> week
1. Severity of headache	3	2	1
2. Frequency of headache	3	2	1
3. Duration of headache	3	2	1
4. Nausea	3	1	0
5. Vomiting	1	1	0
6. Photophobia	1	1	0
7. Aura	0	0	0
8. Other symptoms like giddiness, lack of sleep, weakness, fatigue	2	1	0
<b>Total</b>	<b>16</b>	<b>10</b>	<b>3</b>

**Table 5: Subjective criteria**

No.	Symptoms	Grade	
1	Severity of headache	0	Absent
		1	Pain intolerable
		2	Distinguishing routine work
		3	Intolerable pain
2	Duration of headache	0	Nil
		1	2-6 hours/day
		2	6-12 hours/day
		3	>12 hours/day
3	Nausea	0	None
		1	Loss of appetite without alterations in eating habits.
		2	Oral intake decreased without significant weight loss, dehydration or malnutrition
		3	Inadequate oral fluid intake, tube feeding, TPN or hospitalization indicated.
4	Vomiting	0	None
		1	1-2 episodes in 24 hours
		2	3-5 episodes in 24 hours
		3	>6 episodes in 24 hours
5	Photophobia	0	No sensitivity to light
		1	Mild sensitive to light but can tolerate with work.
		2	Mild sensitive to light but can't tolerate with work.
		3	Can't tolerate light; needs either darkness or lights completely off.
6	Episodes of attack	0	No attacks within 1 month
		1	1-3 attacks in 1 month
		2	4-6 attacks in 1 month
		3	>6 attacks in 1 month
7	Aura	0	Nil
		1	Last for 5-10 mins
		2	Last for 10-15 mins
		3	Lasts more than 15 mins
8	Other symptoms like giddiness, lack of sleep, weakness, fatigue	0	None
		1	Mild
		2	Moderate
		3	Severe



**Figure 1: Demonstration of Marma chikitsa**


### Mode of Action of medicines given

**Suvarna Sootshekhar Ras:** It is an Ayurvedic formulation which is prepared from the mixture of herbs and minerals having *Swarna Bhasma* (Gold ash), *Tamra Bhasma* (Calcinated copper), *Raupya Bhasma* (Calcinated Silver ash) and *Shankh Bhasma* (Conch shell ash) and also drugs like *Vatsnabh* (*Aconitum ferrox*), *Trikatu* etc. It is the classical preparation of *Ayurveda Saar Sangrah*. It is mainly indicated in *Vataja* and *Pittaja* disorders having characteristics like neuroprotective, antacid, digestive stimulant, cardioprotective, anti depressant. Also *Madhura rasa* counteracts the *Tikshna Guna* of vitiated *Pitta* causing soothing effect, promotes strength and pacify *Vata Pitta doshas*. As most of the drugs used in this *Kalpa* are *Tikta*, *Madhur* and *Kashay rasa* subsides *Pitta* and *Kapha doshas* respectively (3).

**Pathyadi Kashaya:** It is an Ayurvedic medicine in water decoction form. It is explained in the *Sharangdhar Samhita Madhyam khanda*. The ingredients having *Triphala*, *Bhunimb* (*Andrographis paniculata*) family- *Gentianaceae*, *Nisha* (*Curcuma longa*) family- *Zingiberaceae* and *Amruta* (*Tinospora cordifolia*) family- *Menispermaceae*. It is widely used in treating all types of headaches. This *Kashaya* has antioxidant, adaptogenic and laxative properties. This decoction has ingredients having *Ushna Virya* (hot potency) and *Vata Shamaka* (*Vata* subsiding) property which can be beneficial in *Ardhavabhedaka* as this disease has dominance of vitiation of *Vata* and *Kapha Dosha*. Further it is also being widely practiced to manage *Shiroroga* (4). It also contains *Amruta*, *Haridra*, *Amalaki* having *Raktaprasadan* and *Ama- Pachan* properties (5).

**Praval Panchamrut:** It is the herbal formulation in the form of tablet or powder. It is helpful and beneficial in balancing *Vata* and *Kapha* disorders. It contains *Bhasmas* of *Praval* (coral ash), *Mukta*, *Shukti* (pearl oyster shell), *Shankh* (Conch shell ash), *Kaparda* (cowrie shell ash) having *bhavana* of *Arkpatri Swaras* (*Calotropis procera* juice). It balances vitiated *pitta dosha* and helps relieving symptoms like *Ajirna* (indigestion), *Adhman* (bloating) etc. (6).

**Avipattikar churna** is laxative in action which relieves the constipation and helps in mild *Virechan* of *Pitta dosha* (7).

## Discussion

In above case study the patient was given with *Shaman* and *Shodhan chikitsa* according to Ayurvedic classics. *Shodhan chikitsa* i.e *Nasya*, the procedure of instilling medicines through the nasal orifice is called *Nasyakarma*. *Acharya Sushrut* and *Vagbhata* have described the dose in the form of *Bindus* (drops). The nasal orifices are believed to be the entrance of the head. The medicine instilled through them easily penetrates *Sringataka Marma* and spreads to the *Siras* (arterioles) of head, eyes, ears, throat and expels out the accumulated *doshas* localized in *Shiras* i.e from all sinuses in the skull, this is also known as *Shirovirechan*. The olfactory nerves entering olfactory mucosa of nose carry the sheaths *dura*, *arachnoid* and *pia* with them. They directly enter into the brain. Olfactory striae are extensively connected to the limbic system. Stimulation can lead to the nourishment of nerve ending and thus *Nasya* alters the pathology of migraine. Along with this *Marma chikitsa* was also given to patient daily. *Marma* is the centre, where *Prana* or vital force of the body is situated (8). Intriguingly, *Marmas* serve as pivotal junctions where the entire spectrum of our physical and mental energy can be intentionally heightened, diminished, or redirected, facilitating transformative effects through the judicious application of *Marma* techniques. The *Marma* point harmonizes the nervous and endocrine system and normalize different pathology in the body through vital power itself, with proper stimulation and manipulation. This technique is known as *Marma Chikitsa*. It includes gentle massage over the *Marma* points (9).

Indian classical music is known for its soothing effect on mind and body. Indian ragas are among the most ancient and enduring forms of music in the world. Different *ragas* have been conventionally known to be associated with varying moods. Music has been shown to stimulate different centers within the brain (10). Showing hippocampal and thalamic activity, which in turn modulate the endocrine activity of hypothalamus (11). Music stimulates the release of endorphins and dopamine. Endorphins are natural pain killers while dopamine is a neurotransmitter which helps regulate pleasure. “*Mohanam*” is a raga in Carnatic music (musical scale of South Indian classical music). It is an *Audava* raga with *Arohana* and *Avarohana*. Only 5 notes are used to describe the *raga*, meaning pentatonic scale. It is one of the most common pentatonic scale across the world. This raga is the oldest raga and consists lots of emotions, including *Sringara*, *Karunya*, and more. There is no specific timing of the *raga*; however, it is perfect for singing and listening to it at night time when complete relaxation can be felt.

## Conclusion

In the management of migraine there is insignificant role of analgesics, vasodilators because it gives temporary relief to the symptoms and also has side effects. Ayurveda emphasizes on cause of disease i.e *Nidanparivarjan*. Different ragas have been conventionally known to be associated with varying

moods. Indian classical Music has been shown to enhance cognitive recovery, improve auditory and verbal memory, attention and mood in patients. After listening to the *Raga* for 15 days for 10-15 minutes, patient's disturbed sleep and stress level was significantly reduced to a greater extent. *Marma chikitsa* was also found to be effective in the management of *Ardhavabhedaka* along with *Shaman and Shodhana chikitsa*. The symptoms of headache was reduced with total cessation of symptoms of nausea, vomiting and aura with the assessment score reducing from 16 before treatment to 3 after treatment. The patient had stopped taking allopathic medicines since Ayurvedic treatment started and have significant reduction in the frequency and intensity of pain of migraine attacks.

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