

Therapeutic Efficacy of Ayurvedic Modalities Including *Nasya* Therapy in the Management of Migraine: A Case Report

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Abstract: Conventional pharmacological and biological treatments are not sufficient against migraines. However, recently, Ayurveda and other alternative systems of medicine have gained attention as alternative therapeutic approaches. This single-case study evaluates the efficacy of an Ayurvedic therapeutic combination of *Yograj guggulu*, *Shirshooladi vajra rasa*, *Godanti bhasma*, and *Pathyadi Kwatha* along with *Yasthimadhu Nasya*. The oral treatment was administered for six weeks and *Nasya* therapy for one week and resulted in significant clinical improvement. A distinguished reduction was observed in headache intensity as well as migraine related symptoms as measured by the Visual Analogue Scale (VAS) and Migraine Disability Assessment Scale (MIDAS). This study highlights the significant efficacy of combining *Pathyadi kwatha* with *Yograj guggulu*, *Shirshooladi vajra rasa*, and *Godanti bhasma* along with *Nasya* therapy may be beneficial in the management of migraine, offering a therapeutic option for the affected people.

Keywords: Acute Headache, Ayurveda, MIDAS, Migraine, *Nasya*, *Shirshooladi vajra rasa*

1. Introduction

Migraine is the most common and crippling neurovascular condition in the world. It frequently distresses people between the ages of 30 to 50 and is characterized by a variability of symptoms, including sudden, severe headaches that are frequently unilateral. Approximately 2% of the global population experiences chronic migraine, which presents with continuous or recurrent pulsating pain. These episodes may be accompanied by restlessness, excessive sweating, and pain radiating toward the temporal region. Females are three times more likely than males to suffer from migraines. Substitute methods are required since this ailment continues to present a significant barrier to allopathic care [1]. Several Asian studies indicate that migraine is more common in women than in men. [2] In addition to the physical discomfort, those impacted are more likely to have anxiety, depression, sleep problems, and other pain conditions. Nausea, vomiting, photophobia, phonophobia, and persistent, throbbing headaches that are frequently unilateral are the symptoms of migraine. [3] A thorough and sophisticated approach to treatment and care is necessary to address its complex effects. Migraine Disability Assessment Scale (MIDAS) is used to evaluate the migraine. [4]

Ardhavabhedaka, a form of *Shiroroga* defined in ancient Ayurvedic scriptures, is related to migraine. [5] An imbalance of three basic body energies known as *Tridoshas*—*vata*, *pitta*, and *kapha dosha* is the main cause of *Ardhavabhedaka*. When *vata dosha* becomes aggravated, it affects both *pitta* and *kapha doshas*, leading to the manifestation of *Ardhavabhedaka* or migraine. This case study evaluates the efficacy of an Ayurvedic treatment protocol comprising *Yograj guggulu*, *Shirshooladi vajra rasa*, *Godanti bhasma*, and *Pathyadi kwatha* along with *Yasthimadhu Nasya* therapy in managing the signs and symptoms of migraine. The authors

selects the treatment based on classical references from Ayurvedic texts. [6]

2. Material and Methods

2.1 Patient information

A 25-year-old female patient visited to the outpatient department (OPD Reg. No. 433/04.04.2024 AHMIS ID 212024050658) with complaints of nausea, light sensitivity, intermittent throbbing forehead pain occurring approximately once every fifteen days for the past three years. The patient had previously consulted a general physician and was diagnosed with migraine. She had been treated with naproxen, prochlorperazine and valproate up to three years, with no marked symptomatic relief. After obtaining detailed medical history and consent, the study was managed in compliance with ICH GCP (International Conference on Harmonisation-Good Clinical Practice) guidelines.

2.2 Clinical Findings

2.2.1 Physical investigation

The patient was examined based on the Ayurveda system, findings exhibited on *Dashavidhpariksha* (ten-fold examination) i.e., *Prakriti* (≈physical constitution)- *Pitta Kaphaj*, *Vikriti* (Morbidity)- *tridoshaja*, *Sara* (essence of all dhatus)- *Rasa sara*, *Samhanana*(compactness)-*Madhyama*, *Satmya* (suitability)- *Madhyam*, *Satva* (psyche)-*Avara*, *Pramana* (anthropometry)-*Madhyama*, *Ahara shakti* (intake of food)-*Avara*, *Vyayam shakti* (capacity of exercise)-*Madhyama* and *Vaya* (age)- *Yuvavastha*. The systemic examination, which includes assessments of other body systems such as the cardiovascular, respiratory, gastrointestinal, neurological, and musculoskeletal systems, did not reveal any notable abnormalities.

2.2.2 Local examination

The patient reported clinical features like Headache, Nausea, Vomiting, Photophobia (sensitivity to light, noise, and smells), and Phonophobia.

2.2.3 Time Line

Timeline of interventions and outcomes shown for Migraine [Table 1].

Table 1: Timeline of the case

Schedule	Date and year	Clinical events
Baseline	April 04, 2024	Initial assessment, Laboratory Investigations and diagnosis as per the IHS criteria
1 st follow up	April 05, 2024	Tablet Yograj guggulu 500 mg, Godanti bhasma 500 mg and Sirsooladi vajra ras 250 mg along with Pathyadi kwatha 20 ml twice in a day orally with water for two weeks along with Yasthimadhu Nasya therapy for one week.
2 nd follow up (14 th day)	April 19,2024	Same oral treatment was prescribed for next two weeks.
3 rd follow up (28 th day)	May 03,2024	Same oral treatment was prescribed for next two weeks.
4 th follow up (42 nd day)	May 17,2024	Complete relief noted, not prescribed any medicine to follow-up and suggested for Laboratory Investigation.
Follow up without medication (56 th day)	May 31,2024	Complete relief, and no recurrence seemed.

2.2.4 Diagnostic assessment

- 1) **Lab investigation:** To confirm the safety, complete blood count (CBC), liver function test (LFT), and renal function test (RFT) were executed.
- 2) **Diagnosis:** According to the International Headache Society's Diagnostic Criteria (IHS) for Migraine, it is established that the condition is indeed Migraine.
- 3) **Assessment criteria:** The patient was evaluated based on signs and symptoms using the Visual Analogue Scale for pain (0-10) and the Migraine Disability Assessment Scale (MIDAS).

2.2.5 Therapeutic Intervention

Ayurvedic formulation comprising 500 mg of *Yograj guggulu*,^[7] 500 mg *Godanti bhasma*,^[8,9] and 250 mg *Shirshooladi vajra rasa*,^[10,11] orally with water and 20 ml *Pathyadi kwatha*^[12,13] decoction with equal quantity of water twice in a day for six weeks along with *Yasthimadhu Nasya*^[14] therapy for seven days through nasal route.

2.2.6 Diet

During the treatment period, a strict diet was followed, avoiding curry, spicy, and fried foods.

2.2.7 Follow-up and Outcomes

Outcomes were evaluated at baseline and every two weeks until the 56th day during the follow-up.

3. Results

Signs and symptoms, such as Headache, Nausea, Vomiting, Photophobia, and Phonophobia, were resolved within six weeks, as summarised in Tables 2 and 3. The values of CBC, LFT and RFT are represented in Table 4. The post-treatment follow-up, conducted 14 days after treatment, showed no evidence of recurrence of symptoms, such as headaches. Adherence and tolerability of the interventions were also assessed, revealing no reported adverse events during the treatment and follow-up periods.

Table 2: Visual Analogue Scale grading (0-10 points) at baseline to end of the treatment

Symptoms	At baseline of treatment (0 day)	14 th day	28 th day	42 nd day	56 th day
Headache	10	02	00	00	00
Nausea	08	01	00	00	00
Vomiting	08	00	00	00	00
Photophobia	10	02	00	00	00
Phonophobia	08	02	00	00	00

Table 3: Migraine disability assessment scale (MIDAS) score

MIDAS Score	
On baseline of treatment	At the end of the treatment
Severe disability -Grade IV (>21 score)	No disability -Grade I (0-1 Score)

Table 4: Investigations conducted for safety assessment

Biochemical & pathological parameters	On baseline of treatment	At the end of the treatment
Haemoglobin (Hb)	11.7	12.0
Blood urea	10.2	10.7
Serum creatinine	0.58	0.56
Serum bilirubin (Total)	0.95	0.51
SGOT	27.2	24.6
SGPT	34.2	15.7
Serum Alkaline phosphatase	110	107

4. Discussion

In Ayurvedic literature, *Shiroroga* describes the clinical connection between Migraine and *Ardhavabhedak*. The ancient expert *Acharya Vagbhatt* enumerated several causative factors for *Shiroroga*, including exposure to smoking, swimming, disturbed sleep patterns, daytime sleeping, excessive dampness conditions and psychological stress. These factors are believed to disturb the normal balance of bodily *doshas*, thereby initiating head-related disorders.

As per contemporary medical perspective, the relationship of cardiovascular risk factors like smoking, high blood pressure, body mass index (BMI), and hypercholesterolemia, and the occurrence of white matter hyperintensities in migraineurs.^[15] In previous eras, physicians thought that vapors rising from the stomach to the brain were the reason of migraine illness and thought some of the pain might be relieved by vomiting.

Caffeine and ergotamine are used together to treat an attack. It benefits by augmenting the constriction of cranial vessels by its direct action and enhancing the absorption of ergotamine from the gastrointestinal tract.^[16] Migraine Disability Assessment Scale (MIDAS) was recognized to measure headache-related disability and improve physician-patient report about the functional significances of Migraine. The questionnaire is based on five disability questions that focus on lost time in three domains: schoolwork or work for pay, household work or chores, and family, social, and leisure activities.^[17] In a comparative trial, the stratified approach was more successful at relieving pain at two hours; however, it resulted in more adverse effects.^[18]

Aspirin is effective at doses of 1000 mg but has the most significant risk of gastric irritation.^[19] Patients must be advocated about the risk of medication abuse and the hazard of alteration to long-lasting everyday headache (transformed migraine). Acute medicines, including triptans, should not be consumed more than two or three times in a week. If acute treatment is needed more often, prophylactic therapy should be considered.^[20]

Ayurvedic management of *Ardhavabhedaka* includes various purification and local therapeutic procedures, including *shiravedha*, *shirobasti*, *shirolepa*, *nasya*, *virechan*, and *raktamokshan*. Among these, *raktamokshan*, is believed to alleviate symptoms by eliminating vitiated Pitta localized in peripheral tissues.^[21] In the present study, *Yograj guggulu* (YG) was selected for its potential role in improving cerebral circulation and reducing inflammation. Experimental studies suggest its anti-inflammatory action through inhibition of the COX-2 enzyme, with relatively minimal gastrointestinal risk due to limited COX-1 suppression.^[22] *Shirshooladi vajra rasa* is an effective medicine for severe headaches due to its pharmacodynamic activities, including analgesic and anti-inflammatory properties.^[23] *Godanti bhasma* is effective due to its antipyretic, anti-inflammatory, and analgesic properties^[24], and *Pathyadi kwatha* is also effective due to its pharmacokinetic activity, including appetizer, digestive, analgesic, and laxative effects.^[25] *Nasya* with fresh juice of *Yasthimadhu* (*Glycyrrhiza glabra* Linn.). Perhaps, oral therapeutic combination along with *Nasya* therapy facilitated in breaking the pathology at dissimilar stages of Migraine. This study emphasizes the pharmacological action of acute or chronic migraine without producing adverse effects.

5. Conclusion

This case report specifies that migraine symptoms were effectively managed using a standalone Ayurvedic treatment approach. Entire the treatment period, the patient did not experience any adverse drug reaction. The clinical outcomes suggests that Ayurvedic formulations along with *Nasya* therapy may serve as a safe and effective therapeutic management option for migraine. Though, more research with larger sample size clinical studies is required to validate these findings.

Patient Perspective

The patient and their parents acknowledged Ayurveda were delighted their condition was successfully alleviated.

Patient Consent

The patient has provided consent for the author to publish this case study.

Author's Role

The role of AM is to the conception, acquisition, design and drafted the manuscript. SB participated in the study analysis. Authors read the entirely manuscript and approved.

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Conflicts of Interest

The authors affirm that they have no conflicts of interest.

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