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EFFICACY OF *HARIDRA KHANDA* AS PRINCIPAL SHAMANA CHIKITSA, AND LOCAL APPLICATION OF *ERANDA PATRA* IN MANAGEMENT OF *TAMAKA SHWASA* (BRONCHIAL ASTHMA) - A SINGLE CASE STUDY

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ABSTRACT

Ayurveda represents a time-honoured system of traditional medicine originating in ancient India. The medical system of *Ayurveda* encompasses a wide spectrum of treatment modalities tailored to individual pathology. Bronchial asthma is a chronic inflammatory airway disease characterized by recurrent episodes of wheezing, breathlessness, chest tightness, and cough. In *Ayurveda*, it is correlated with ***Tamaka Shwasa***, a disorder predominantly involving ***Vata*** and ***Kapha Dosha*** affecting the ***Pranavaha Srotas***. This single case study describes the successful *Ayurvedic* management of a patient diagnosed with moderate bronchial asthma using ***Haridra Khanda*** **as the Principal *Shamana Chikitsa*, and local application of *Eranda Patra*** for 30 days. Clinical assessment was performed using symptom severity scores, frequency of Asthma Attacks, breath-holding time (BHT), Peak Expiratory Flow Rate (PEFR), and spirometry assessment. Following treatment, the patient demonstrated marked improvement in respiratory symptoms, including reduction in wheezing and dyspnoea, improved exercise tolerance and sleep quality, along with significant improvement in pulmonary function. The findings suggest that the combined

use of *Shamana Chikitsa* and local application of *Eranda Patra* may be an effective *Ayurvedic* therapeutic approach for the management of *Tamaka Shwasa.*

KEYWORDS: *Ayurveda*, Tamaka Shwasa, Bronchial Asthma, Case Report, *Eranda Patra*, *Haridra Khanda*, *Shamana Chikitsa*.

INTRODUCTION

Ayurveda is a traditional system of healthcare developed in ancient India. As a foundational pillar of traditional Indian medicine, *Ayurveda* offers an ancient, comprehensive approach to healthcare. *Ayurvedic* literature details a diverse array of therapeutic modalities and clinical interventions.

Asthma is a major chronic respiratory disorder affecting millions worldwide, also known as **bronchial asthma**. It is characterized by airway hyper-responsiveness, inflammation, and reversible airway obstruction. Common symptoms include wheezing, dyspnoea, cough, and chest tightness. World Health Organization (WHO) has an official framework; **ICD-10 code J45 for** Asthma is a medical classification as listed by WHO under the range Chronic lower respiratory diseases**, & SL40** stands for Bronchial asthma disorder (TM2), which is classified under the Traditional Medicine Module 2 (TM2) respiratory system disorders chapter **1, 2, 3,** Correlates with ***Tamak Shwasa***. According to *Ayurveda*, *Tamaka Shwasa* is described under *Shwasa Roga* (respiratory disease) affecting the *Pranavaha Srotas* and is mainly caused by vitiation of Vata and Kapha Dosha. Agnimandya, Kapha accumulation, and obstruction of Pranavaha Srotas lead to Pratiloma Vayu (prolonged expiration), Ghurghuraka (wheeze), Ativa Tivra Vagam Cha Shwasam Pranaprapidakam (dyspnoea of exceedingly deep velocity, which was immensely injurious to life), *Shwasa Krichrata* (difficulty in breathing), *Kasa* (cough), *Peenasa*, *Urah Shoola* (Chest Pain), Inability to lie down comfortably.[1, 2] Asthma affects approximately 260 million people worldwide. Bronchial asthma is a major global health problem, which can affect the population irrespective of age, sex, economic status, etc. at present, asthma is reported in 1.2–6.3% of adults in most countries. From 1990 to 2021, the age-standardised prevalence and incidence rates of asthma declined by 40.01% and 29.89%, respectively. While asthma deaths increased slightly, the age-standardised mortality rate (ASMR) declined by 46.01%. The highest prevalence was observed in South Asia, East Asia and high-income North America, while low-SDI regions exhibited elevated mortality and DALYs. The age and sex-specific patterns indicated a higher asthma burden among females.

The results of the joinpoint analysis indicated a global age-standardised incidence rate increase between 2005 and 2010 for both males and females.[3]

A wide range of drugs is available in the modern system of medicine for the management of bronchial asthma; however, their long-term use is often associated with adverse effects such as oral candidiasis, dysphonia, osteoporosis, adrenal suppression, and systemic complications, particularly with prolonged corticosteroid therapy and frequent use of bronchodilators.[1,2] [4,5] Owing to these limitations, there is a growing interest among patients in traditional and complementary therapeutic approaches that are considered comparatively safer, holistic, and capable of improving long-term quality of life.[3][6]

Ayurveda offers a comprehensive approach for the management of *Tamaka Shwasa*, emphasizing *Nidana Parivarjana*, *Shamana Chikitsa*, *Shodhana Chikitsa* (where indicated), *Pathya-Apathya*, and supportive therapies aimed at correcting the underlying *Vata-Kapha* imbalance, improving *Pranavaha Srotas* function, and preventing recurrence.[4,5] [7,8]

Therefore, the present study entitled **"Efficacy of *Haridra Khanda* as the Principal *Shamana Chikitsa*, along with local application of *Eranda Patra* in Management of *Tamaka Shwasa* (Bronchial Asthma) - A Single Case Study"** was undertaken to evaluate the clinical efficacy and safety of this Ayurvedic treatment approach in the management of ***Tamaka Shwasa* (Bronchial Asthma)**.

AIM AND OBJECTIVES

Aim

To evaluate the efficacy of *Ayurvedic management* in Asthma (*Tamaka Shwasa*) using *Shamana Chikitsa*, and local application of *Eranda Patra*.

Objectives

1. To assess improvement in respiratory symptoms.
2. To evaluate changes in pulmonary function.
3. To assess the reduction in frequency of asthma attacks.

MATERIALS AND METHODS

Patients fulfilling the criteria of Asthma (*Tamaka Shwasa*) were registered in the study, irrespective of sex and religion, from the Outpatient Department of *Kayachikitsa* at Government Ayurved College, Gwarighata, Jabalpur Madhya Pradesh.

Study Design: Single Case Study (Case Report)

Case Presentation

A 47-year-old female presented to the Outpatient Department of Kayachikitsa with complaints of recurrent episodes of breathlessness, wheezing, chest tightness, dry cough, nocturnal symptoms, and difficulty in lying in the supine position for the previous five years. Her symptoms were aggravated by exposure to dust and cold weather and were partially relieved by inhaled bronchodilators.

There was no history of pulmonary tuberculosis, chronic obstructive pulmonary disease (COPD), cardiac disease, or any other major systemic illness. The patient experienced disturbed sleep due to nocturnal asthma attacks occurring two to three times per week.

On Ayurvedic examination, the patient exhibited features suggestive of Vata-Kapha predominance with involvement of the *Pranavaha Srotas*. Baseline investigations included routine hematological investigations, chest X-ray, Breath Holding Time (BHT), Peak Expiratory Flow Rate (PEFR), and spirometry.

Diagnostic Criteria

A detailed history and physical examination were conducted using a standard proforma incorporating both Ayurvedic and modern methods of assessment. Parameters such as ***Agnibala***, ***Dehabala***, and ***Prakriti*** were recorded. Patient selection was based on the diagnosis established using both subjective and objective criteria, as described below.

A. Subjective criteria

Presence of symptoms[1] of *Tamaka Shwasa*. The symptoms were based on textual references like ***प्रतिलोमं यदा वायुः*** (prolonged expiration), ***घुर्घुरुकं*** (wheeze), ***अतीव तीव्रवेगं च श्वासं प्राणप्रपीडकम्*** (**dyspnea** of exceedingly velocity, which was immensely injurious to life), ***श्लेष्मण्यमुच्यमाने तु भृशं भवति दुःखितः*** (as the phlegm does not come out, the patient became more restless), ***उद्ध्वंसते कण्ठः*** (choked throat), ***आसीनो लभते सौख्यमुष्णं*** (comfortable in orthopnea position), ***तस्यैव च विमोक्षान्ते मुहूर्तं लभते सुखम्*** (patient found momentary relief

after the expulsion of phlegm), ***शयानः श्वासपीडितः*** (patient had more dyspnea when lying down), ***कृच्छ्राच्छक्नोति भाषितुम्।*** (hoarseness of voice).

B. Objective criteria

As objective criteria, the following investigations were carried out – **(a)** Blood: CBC, **(b)** Urine: Routine urine examination, **(c)** Radiological examination: X-ray of the chest, **(d) Pulmonary Function Tests**: **(i)** Breath Holding Time and **(ii)** Peak Expiratory Flow Rate (PEFR). **(iii)**Spirometry Assessment – 1. $FEV_{1,}$ 2. FEV_1/FVC Ratio.

Intervention

1. *Shamana Chikitsa*

Medicine	Dose	Duration
Haridra Khanda[9]	5 gm twice daily with Milk	30 days
Sitopaladi+Guduchi + Sudarshan Churna[10]	3 gm each twice daily with honey	30 days
Shwas Kuthar Rasa[11]	125 mg twice daily	30 days
Kanakasava[12]	5 ml with equal water after meals	30 days

2. Local Application of Eranda Patra

Fresh *Eranda* leaves, *erand* oil, and *Sendhav Lavan* were mildly heated and applied over the chest and upper back for 15–20 minutes daily.

Assessment

Clinical improvement was assessed using subjective and objective parameters. Subjective parameters included **assessment criteria;** improvement in patients was assessed primarily based on the relief of the signs and symptoms of the disease. To ensure an objective evaluation of the therapeutic effect, all signs and symptoms were assigned scores according to their severity. Objective parameters, including Breath Holding Time (BHT) and Peak Expiratory Flow Rate (PEFR), were also used to assess treatment outcomes. Clinical signs and symptoms were recorded on the first day of treatment and subsequently at 07-day intervals throughout the treatment period. The severity of each symptom was graded using a predefined scoring system**.**

Subjective Parameters[13,14,15]

Gradation score (0–3)

1. **Prolonged expiration**
2. **Wheeze sound**
3. **Dyspnea**
4. **restlesness**

5. **Choked throat**
6. **Orthopnea position**
7. **hoarseness of voice**.
8. Frequency of attacks
9. Nocturnal symptoms

Assessment Criteria (Subjective Parameters)

Score	Severity
0	Absent / Normal
1	Mild
2	Moderate
3	Severe

Gradation of Subjective Symptoms

Parameter	Grade 0	Grade 1	Grade 2	Grade 3
Prolonged expiration	Normal expiration	Slight prolongation	Moderate prolongation	Marked prolongation
Wheeze sound	Absent	Occasional	Audible without stethoscope during expiration	Continuous loud wheeze
Dyspnoea	None	On strenuous exertion	On moderate activity	At rest/minimal activity
Restlessness	Absent	Mild	Moderate	Severe, unable to remain comfortable
Choked throat	Absent	Occasional	Frequent	Continuous
Orthopnoea	No difficulty lying down	Needs one pillow	Needs two pillows	Unable to lie supine
Hoarseness of voice	Normal	Mild	Moderate	Severe
Frequency of attacks	None	≤1/week	2–3/week	Daily or frequent
Nocturnal symptoms	None	≤1/week	2–3/week	Daily/nightly

Assessment Criteria for Objective Parameters

Grading of pulmonary function tests Parameter as follows.

Assessment of Pulmonary Function Tests

(i) Breath Holding Time (BHT)[16,17]

Grade	BHT (seconds)	Interpretation
0	>40 seconds	Normal
1	31–40 seconds	Mild impairment
2	21–30 seconds	Moderate impairment
3	≤20 seconds	Severe impairment

(ii) Peak Expiratory Flow Rate (PEFR)[18,19]

Grade	PEFR (% of predicted value)		Interpretation
0	≥80%	(Green Zone)	Normal
1	60–79%	(Yellow Zone)	Mild reduction
2	40–59%	(Red Zone)	Moderate reduction
3	<40%	(Red Zone)	Severe reduction

(iii) Spirometry Assessment

A. Forced Expiratory Volume in 1 Second (FEV_1)

Grade	FEV_1 (% predicted)	Interpretation
0	≥80%	Normal
1	60–79%	Mild obstruction
2	40–59%	Moderate obstruction
3	<40%	Severe obstruction

B. Forced Vital Capacity Ratio (FEV_1/FVC)[20,21,22]

Grade	FEV_1/FVC (%)	Interpretation
0	≥70%	Normal
1	60–69%	Mild obstruction
2	50–59%	Moderate obstruction
3	<50%	Severe obstruction

ATS/ERS or GOLD guideline - based on radiological findings.

(c) Radiological Examination (Chest X-ray)[21,22]

Grade	Radiological Findings	Assessment
0	Normal chest X-ray with no abnormal findings	Normal
1	Mild hyperinflation without other abnormalities	Mild changes
2	Moderate hyperinflation with increased bronchovascular markings	Moderate changes
3	Marked hyperinflation with flattened diaphragm and/or evidence of complications (e.g., segmental atelectasis or pneumothorax)	Sever changes

OBSERVATION AND RESULTS

Clinical Interpretation

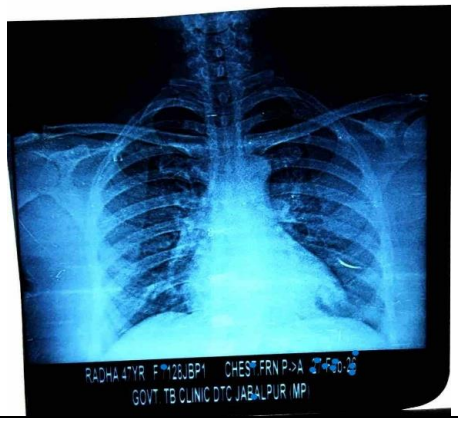
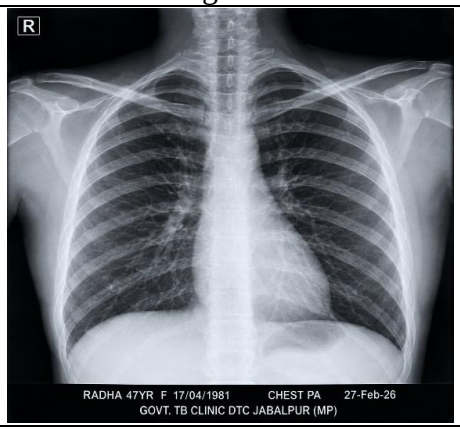
Assessment Of Subjective Parameters

Subjective Parameter	Before Treatment	After 30 Days	Improvement (%)
1. Prolonged expiration	3	1	66.7
2. Wheeze sound	3	1	66.7
3. Dyspnoea	3	1	66.7
4. Restlessness	2	0	100
5. Choked throat	2	0	100
6. Orthopnoea	2	0	100

7. Hoarseness of voice	2	1	50
8. Frequency of attacks	3	1	66.7
9. Nocturnal symptoms	3	1	66.7

Assessment Of Objective Parameters

S. No.	Objective Parameter	Before Treatment	After Treatment (Day 30)	Approx. Improvement
1.	**BHT (Breath Holding Time)**	20 sec	35 sec	75% ↑
2.	**PEFR**	220 L/min	320 L/min	45.45% ↑
3.	**FEV_1**	1.6 L	2.1 L	31% ↑
4.	**FEV_1/FVC**	65%	75%	15% ↑

Radiological Findings	**Assessment**
Before Treatment	**After Treatment**
Mild hyperinflation without other abnormalities	Normal chest X-ray with no abnormal findings
	

Overall Improvement

Parameter	Before Treatment	After 30 Days
Breathlessness	Severe	Mild to Normal
Wheezing	Present	Occasional
Night Symptoms	Frequent	Rare
PEFR	220 L/min	320 L/min
Exercise Tolerance	Poor	Improved
Sleep Quality	Disturbed	Normal

After 30 days of treatment with ***Shamana Chikitsa*** and **local application of *Eranda Patra***, the patient demonstrated marked improvement in all subjective symptoms. The greatest improvement was observed in **restlessness, choked throat, and orthopnoea**, which resolved completely. Significant reductions were also observed in **prolonged expiration, wheeze, dyspnoea, frequency of asthma attacks, and nocturnal symptoms**, indicating overall clinical improvement and better quality of life.

DISCUSSION

Tamaka Shwasa is primarily a ***Vata-Kaphaja*** disorder involving obstruction of the ***Pranavaha Srotas***. The therapeutic regimen adopted in this case was aimed at alleviating *Kapha* obstruction, normalizing the movement of *Vata,* and improving respiratory function.

Probable Mode of Action

Tamaka Shwasa is predominantly a ***Vata-Kapha* disorder** involving obstruction (***Sanga***) of ***Pranavaha Srotas***.

Haridra Khanda is explained in *Bhaishajya Ratnavali, Shitapitta-Udarda-Kotha Chikitsa Adhyaya,* 55/ 10-13. acts through multiple mechanisms. And here we find its mechanism on *Tamak shwas*.

1. ***Haridra (Curcuma longa)*** has properties *Tikta, Katu Rasa; Ruksha, Laghu Guna; Ushna Virya; Katu Vipaka* Act as Anti-inflammatory, anti-allergic, antioxidant, reduces bronchial inflammation, suppresses eosinophilic infiltration and airway hyper-responsiveness.
2. ***Trikatu (Shunthi, Maricha, Pippali)*** has properties *Deepana, Pachana, Kapha-Vata Shamaka* act as Anti-inflammatory, anti-allergic, antioxidant, reduces bronchial inflammation, suppresses eosinophilic infiltration and airway hyper-responsiveness.
3. ***Triphala*** has properties *Rasayana, Tridosha Shamaka* act as Antioxidant, immunomodulatory, reduces oxidative stress and chronic airway inflammation, protecting bronchial epithelium from chronic inflammatory damage.
4. ***Dalchini (Tvak)*** has properties *Ushna, Kapha-Vatahara* act as Expectorant, antimicrobial, improves respiratory circulation and reduces mucus accumulation.
5. ***Ela (Cardamom*)** has properties Carminative, expectorant, relieves cough and bronchial congestion.
6. ***Tejapatra*** has properties *Katu-Tikta Rasa; Ushna Virya* act as Anti-inflammatory, improves circulation and reduces Kapha obstruction.
7. ***Nagakesara*** has properties *Kashaya-Tikta Rasa* act as Anti-inflammatory, antioxidant and tissue healing activity.
8. ***Shothahara* (Anti-inflammatory Effect)** Curcumin present in Haridra inhibits NF-κB activation and suppresses inflammatory mediators including TNF-α, IL-4, IL-5 and IL-13, reducing airway inflammation.
9. **Immunomodulatory Effect** *Guduchi*-like *Rasayana* action (through associated *Rasayana* ingredients) enhances immune regulation and reduces recurrent allergic episodes.

Sugar (Sharkara)	*Madhura Rasa*	Acts as *Yogavahi*, improves palatability and supports delivery of herbal ingredients.
Cow Ghee (Ghrita)	*Madhura Rasa; Snigdha Guna*	*Rasayana*, enhances drug absorption, lubricates respiratory mucosa and pacifies *Vata*.

Remain Shamana Chikitsa helps in ***Kapha Vilayana***, ***Vatanulomana***, and reduction of airway inflammation. *Haridra Khanda* possesses *Rasayana* and anti-allergic properties, while *Sitopaladi Churna*, *Guduchi*, *Sudarshana Churna*, and *Shwas Kuthar Rasa* contribute expectorant, bronchodilatory, and anti-inflammatory effects. *Kanakasava* assists in relieving bronchospasm and improving respiratory function.

Local application of ***Eranda Patra*** produced a mild *Swedana* effect, reducing chest congestion, improving local circulation, and facilitating easier breathing. The observed clinical improvement suggests that this integrated Ayurvedic management effectively reduced symptom severity and improved pulmonary function in this patient.

CONCLUSION

This single-case study demonstrates that *Ayurvedic* management comprising *Haridra Khanda* as the principal *Shamana Chikitsa*, along with local application of *Eranda Patra*, resulted in substantial clinical improvement in a patient with *Tamaka Shwasa* (Bronchial Asthma). Adding *Haridra Khanda* to *Shamana Chikitsa* and *Eranda Patra* application was associated with reduced symptom severity, improved pulmonary function, better sleep quality, and improved overall quality of life, with no adverse effects reported during the treatment period. These findings suggest a potential beneficial role of *Haridra Khanda* as an integral component of the *Ayurvedic* management of *Tamaka Shwasa*. However, as this is a Single-Case Observation, larger controlled clinical studies are warranted to establish its efficacy, safety, and reproducibility before making broader clinical recommendations can be made.

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