



### CONCEPTUAL STUDY ON EFFECTS OF HARIDRADI AVLEHA IN THE MANAGEMENT OF TAMAKA SHWASA

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#### ABSTRACT

Ayurveda is the most ancient science of life. The peculiarity of the Ayurvedic treatment is its potential to cure and prevent the relapse of several diseases. Tamaka Shwasa Vyadhi is disease of Pranvahasrotasa. The Moola of Pranvahasrotasa as per Acharya Charak are- Hridaya, Mahasrotasa and according to Acharya Sushruta are Hridaya and Rasavahini Dhamanyaha. According to principles of Ayurveda Tamaka Shwasa is a Kaphavataja disease which originates from Pitta Sthana. Current estimate suggest that 300 million people worldwide suffer from asthma and an additional 100 million may be diagnosed with asthma by 2025. According to WHO by the year 2020 asthma along with chronic obstructive pulmonary disease will become the third leading cause of death. India has an estimated 15-20 million asthmatics. In India rough estimate indicate a prevalence of 10% and 15% in 5-11 year old children. So need of time is to go for cost effective, safe and efficient treatment of asthma Although, there are many drugs available in modern medical science for the treatment of Bronchial Asthma but they are associated with adverse effects, so there is need of the hour to look into the safe herbal remedy which not only treat the above ailment as well as safe and reduces the episodes of relapse of the disease. Keeping all above points in mind the Haridradi Avleha has been selected to know the effect in treating Tamaka Shwasa (Bronchial Asthma). Haridradi Avleha consists of 6 drugs which have different properties it consist of Haridra, Maricha, Draksha, Munakka, Guda, Rasna, Shati.

**KEYWORDS:** Haridradi Avleha, Tamaka Shwasa.

#### INTRODUCTION

Ayurveda, the science of life is the supreme theory with unerring factors based on Tridosha and Panchbhautic principles. This system, with its eight divisions encompassed every angle of a person's health, aliments and treatments which were highly comprehensive. Ayurveda, though ancient, but still contemporary and potential enough to dealing the diseases of present era. This system of medicine has its own modes of handling a pathological condition where by the consequences are absolutely desirable.

A type of Shwasa Roga in which patients feels excessive difficulty in breathing and drowning in dark is known as Tamaka Shwasa. It may be defined as a disease in which due to derangement of Prana Vayu, along with obstruction by Kapha, the respiration is disturbed with feeling of tightness of chest, choking of neck or feeling of merging in darkness. Over the centuries, the etiology of a particular disease has been enrolling wide number of factors rendering incurable status to that disease. It is

analogous to Bronchial asthma due to similarity in symptoms, pathogenesis, onset, causes and precipitating factors. Asthma is a syndrome characterized by airflow obstruction that varies markedly, both spontaneously and with treatment. Asthmatics harbor a special type of inflammation in the airways that makes them more responsive than nonasthmatics to a wide range of triggers, leading to excessive narrowing with consequent reduced airflow and symptomatic wheezing and dyspnea. Narrowing of the airways is usually reversible, but in some patients with chronic asthma there may be an element of irreversible airflow obstruction.<sup>[1]</sup>

Approximately 300 million individuals are currently suffering from asthma worldwide including 10% (i.e. 30 million) in India. The prevalence of asthma is estimated to range from 3 to 38% in children and from 2 to 12% in adults. An estimated 300 million people worldwide suffer from asthma, with 250,000 annual deaths attributed to the disease. It is estimated that the number of people with asthma will grow by more than 100 million by 2025.<sup>[1]</sup>

**Rationale:** The drugs are the tools of a Physician. The rational use of drug means that the half of the treatment is over. In Ayurvedic classics there are a lot of single and compound drugs which mentioned in several contexts. In Ayurveda, Dravya (Aushadha) is considered as one of the four fold constituents of "Chikitsa Chatuspada". Action of Aushadha has been explained on the basis of theory of Rasa, Guna, Virya, Vipaka and Prabhava. The right choice of Aushadha plays vital role in the treatment of the particular disease. In Ayurveda, the pharmacodynamics of the drug reverses or breaks the Samprapti without producing any side effects.

A number of formulations have been mentioned in Ayurvedic classics for the treatment of Tamaka Shwasa. Vata and Kapha are the predominant Doshas involved in the pathogenesis of Tamaka Shwasa. The treatment must be of Vatahara and Kaphahara line along with the clearing the passage of Pranavaha Srotas. Therefore the drugs with the above said qualities are needed for relieving the symptoms of Tamaka Shwasa.

Keeping all above points in mind the Haridradi Avleha has been selected to know the effect in treating Tamaka Shwasa (Bronchial Asthma).

#### AIMS AND OBJECTIVES

To evaluate the role of Haridradi Avleha in the management of Tamaka Shwasa with special reference to Bronchial Asthma.

**Table 1: Quantity of ingredients taken for preparation of Haridradi Avleha.**

Sr. no.	Dravya	Botanical Name	Part used	Quantity
1.	Haridra	Curcuma longa	Rhizome	1 part
2.	Maricha	Piper nigrum	Fruit	1 part
3.	Pippali	Piper longum	Fruit	1 part
4.	Rasna	Pluchea lanceolata	Leaf	1 part
5.	Shati	Hedychium spicatum	Rhizome	1 part
6.	Draksha	Vitis vinifera	Fruit	1 part
7.	Sarshapa tail	Brassica campestris	Oil	1 part
8.	Guda	-----		14 part

#### Preparation of Haridradi Avleha

All the five Dry herbs (1-5) were collected in required amount and grinded into fine powder. Mustard oil was heated till the bubbles get diminished. Then Guda was added into the oil and heat was applied until Guda melts completely. Constant stirring was carried out. When it melted, paste of Draksha was mixed in it. At the end powder of all dry herbs were added, last after the Leha has become cool.

#### MATERIALS AND METHODS

- Ayurvedic textbooks were referred to collect the relevant materials.
- The index, non-index medical journals were referred to collect relevant information.

**Drug Review:** Even the ancient sages were well aware about the disease 'Tamaka Shwasa' and various descriptions regarding the disease have been mentioned in different classical text books by different Acharya. Moreover, the Acharya have mentioned several herbs and formulations in the management of Tamaka Shwasa. They all are potent in its own way in the management of Madhumeha. Out of many such drugs, one formulation 'Haridradi Avleha' has been selected for the study.

#### Haridradi Leha

gfjnz k efjpa nzk{kk xqMks jkLuk d.kk "kVh A  
dVqrSys fygUgU;kPnm,N~OkklkUizk.kgjkufi AA  
(;ks. j. "okl. fp. 48)

## Rasa Panchka of Haridradi Avleha

Name	Rasa	Guna	Virya	Vipaka	Doshaghanta	Karma	Rogaghanta
Haridra	Katu, Tikta	Ruksha, Laghu	Ushna	Katu	Tridosha shamaka	Vishaghna, Anulomana, Pittarechaka, Shothghna	Kasa, Pratishtyaya, Shwasa Shitapitta Shotha
Maricha	Katu	Laghu, Tikshna, Ruksha	Ushna	Katu	Kapha-Vatashamaka	Deepan, Pachana Vatanulomana, Srotoshodhna, Lekhana,	Pratishtyaya, kasa, Shwasa, Agnimandhya
Pippali	Katu	Laghu, Snigdha Tishna	Anushna - sheeta	Madhura	Kaphavata-Shamaka	Vatanulomana, Deepana	Kasa, Shwasa Shotha,
Rasna	Tikta	Guru	Ushna	Katu	Vatakapha-shamaka	Shothahara, Vatahara, Amapachana, Vishaghna	Shotha, Shoola Kasa, Shwasa Vibandha,
Shati	Katu, Tikta, Kashaya	Laghu, Tikshna	Ushna	Katu	Kaphavata-shamaka,	Deepana Shoola-prashamana,	Pratishtyaya, Kasa, Shwasa Hridaurbalya Agnimandhya,
Draksha	Madhura	Guru, Snigdha, Mridu	Sheeta	Madhura	Vata-pitta shamaka	Hridya, Jivaniya, Balya, Brimhana Saumanasyajanan-a Deepana	Hridaurbalya Samanya Daurbalya
Guda	Madhura	Guru	Ushna	Madhura	Vata-pitta shamaka	Rasayana Agnipushtikara, Vrishya	
Sarshapa tail	Katu, Tikta	Snigdha	Ushna	Katu	Vata-Kapha shamaka, Pitta vardhka	Lekhana, Agnideepana Vishaghna,	Vatavyadhi Udarda,

**Haridra**<sup>[2]</sup>: As per the research, Haridra contains Curcumin which showed significant anti-inflammatory activity.<sup>[3]</sup> Rhizome essential oil showed anti-inflammatory activity in mice and rats.<sup>[4]</sup> Curcumin, a yellow pigment in the rhizomes is a powerful anti-inflammatory agent.<sup>[5]</sup> Turmeric is an efficient antioxidant and DNA protectant. It contains three methionine residues which is partly responsible for antioxidant activity.<sup>[6]</sup> Antioxidant Effects- Water- and fat-soluble extracts of turmeric and its curcumin component exhibit strong antioxidant activity, comparable to vitamins C and E.<sup>[7]</sup> Anti-inflammatory Effects- The volatile oils and curcumin of *Curcuma longa* exhibit potent anti-inflammatory effects.<sup>[8]</sup> Oral administration of curcumin in instances of acute inflammation was found to be as effective as cortisone or phenylbutazone, and one-half as effective in cases of chronic inflammation.<sup>[9]</sup> *C. longa*'s anti-inflammatory properties may be attributed to its ability to inhibit both biosynthesis of inflammatory prostaglandins from arachidonic acid, and neutrophil function during inflammatory states. Curcumin may also be applied topically to counteract inflammation and irritation associated with inflammatory skin conditions and allergies, although care must be used to prevent staining

of clothing from the yellow pigment.<sup>[10]</sup> It is also known to be effective for the treatment of pulmonary fibrosis.<sup>[11]</sup>

**Maricha**<sup>[12]</sup>: Kim et al. reported that oral administration of piperine in different proportion to mice suppressed and reduced the infiltration of eosinophil, hyperresponsiveness and inflammation due to the suppression of the production of histamine, interleukin-5, immunoglobulin E and interleukin-4.<sup>[13]</sup> Hence piper nigrum shows anti-asthmatic activity. Results of the experimental studies of *Piper nigrum* suggested that anti-asthmatic activity may be due to its bronchodilator property. The possible mechanism of action may be blocking of muscarinic (M1) receptor by steroidal saponin, leading to inhibitory effect on smooth muscle to respond to acetylcholine induced contraction leading to inhibition of bronchoconstriction.<sup>[14]</sup> Antioxidant radical scavenging activities - Water and ethanol crude extracts from black pepper were investigated for their antioxidant and radical scavenging activities. Both water extract and ethanol extract of black pepper exhibited strong total antioxidant activity.<sup>[15]</sup>

**Pippali**<sup>[16]</sup>: Decoction of immature fruits and roots is used in chronic bronchitis, cough, and cold.<sup>[17]</sup> Clinical studies have revealed that Pippali is very effective in the

treatment of Bronchial asthma in children. Studies conducted on children revealed that long term use of fruits decreased (58.3%) severity of bronchial asthma attacks. Piperine decreased the rate and amplitude of respiration and showed nonspecific blockade of acetylcholine, histamine 5 hydroxy-tryptamine induced spasm on isolated guinea pig and rabbit intestine.<sup>[18]</sup> The crude extract of *P. longum* as well as piperine suppressed the ciliary movements of the esophagus of frog. These findings suggest that therapeutic efficacy in relieving cough could be due to the suppression of cough reflex.<sup>[19]</sup> Evaluation of anti-allergic activity of piper longum.<sup>[20]</sup> Piperlongumine as well as extract of *P. longum* showed marked antispasmodic action on isolated tissue.<sup>[21]</sup> Alcoholic extract of the fruits of *Piper longum* and its component piperine have shown effective immunomodulatory and antitumour activity in cell-line and animal experiments.<sup>[22]</sup> Clinical trials were carried out at L.T.M.G. and B. J. Wadia Hospitals, Bombay on 240 and 20 children respectively suffering from bronchial asthma. *P. longum* was administered orally in gradually increasing doses. The drug proved efficacious in controlling the frequency and severity of the asthmatic attacks in a number of patients.<sup>[23]</sup>

**Rasna:** *Pluchea lanceolata* (Rasna): Ethyl acetate fraction of *P. lanceolata* showed relaxant action against histamine induced contraction in vitro animal model in isolated guinea pig tracheal chain preparation which demonstrate its use in asthma.<sup>[24]</sup> Immunosuppressive properties of *pluchea lanceolata* leaves.<sup>[25]</sup> Quercetin production from in vitro cultures of *Pluchea lanceolata* Oliverr and Hiern as an anticancer agent: Arya et al., 2008 that, maximum quercetin content (0.23 mg/g dry weight of tissues) was obtained in 6 weeks old callus tissues derived from leaf explants of *Pluchea lanceolata* Oliverr and Hiern. It is well known that quercetin can play an important role as anticancer agents.<sup>[26]</sup>

**Shati**<sup>[27]</sup>: Shati shows Anti asthmatic activity - The powdered rhizome of *H. spicatum*, given 10 g in divided doses to 25 patients with recurrent paroxysmal attacks of dysopnea (bronchial asthma) for 4 weeks, completely relieved dysopnea, cough and restlessness in all the patients. The ronchi completely disappeared in 36 % of the patients. The mean respiration rate was reduced by 25 % and the vital capacity was increased by 20 %. The mean absolute eosinophil count also declined by 55.6 %. In another study 16 patients of bronchial asthma were given 1 g of powder thrice daily for 21 days, with plain water. The chief complaints like breathlessness, cough, chest heaviness, loss of appetite, uneasiness during exercise and sleeplessness etc were relieved with varying degree of relief in all the patients.<sup>[28]</sup> Pulmonary Eosinophilia - In the clinical study, 15 patients of tropical pulmonary eosinophilia were treated with the powder of *H. spicatum* in the dose of 6 g b.i.d. After 4 weeks of treatment, the eosinophil count was reduced by 60.54 %.<sup>[29]</sup> A study conducted on children suffering from tropical pulmonary eosinophilia *H. spicatum* was

found to give relief in signs and the symptoms and reduce the blood eosinophil level in dose of 70 mg/kg of body weight. Though most of the symptoms were relieved within one to three weeks period, radiological findings and lymphadenopathy were normalized after a considerably prolonged period.<sup>[30]</sup> Analgesic and anti-inflammatory effects - The benzene extract of rhizome of *H. spicatum* possessed significant analgesic activity in acetic acid induced writhing in mice whereas 50 % ethanol and hexane extracts of rhizome was found to possess significant anti-inflammatory activity in carrageenan induced hind paw edema in mice.<sup>[32]</sup>

**Draksha**<sup>[31]</sup>: Castillo, J. et al. (2000), Antioxidant activity and radioprotective effects against chromosomal damage induced in vivo by X-ray of flavanol-3 -ols (procyanidins) from grape seed *Vitis vinifera*.<sup>[32]</sup>

**Sarshapa**<sup>[33]</sup>: It has Lekhana, Kusthghna, Jantughna, Vednasthapana and Snehana properties. Oil is a skin and mucous membrane irritant, Emetic stimulant, digestive stimulant, antipruritic, sporostatic, antifungal.

Glucinate, the pungent principle in mustard oil, has antibacterial, antifungal and anti-carcinogenic properties.<sup>[34]</sup>

A study in The American Journal of Clinical Nutrition in 2004 found that Indians who ate mustard oil had lower incidences of heart disease, possibly because of its alpha-linolenic acid, an omega-3 fatty acid that is found in plants.

**Guda:** In Ayurvedic texts Guda is described under *Ikshuvarga*. It is prepared by the juice of sugarcane. Guda is sweet in taste, acts as demulcent and purifies the blood and urine. It increases fat, kapha, Corpulancy and have tonic and Spermopoetic property. Its efficacy increases with years. (Su. Su. English commentary page 455). Guda is having Rasayana and Vrishya properties. (Su.Su. 27).

**Nava Guda:** Kapha and Krimi-kara and Agnikara.

**Purana Guda:** Anabhishtandi, Pathya, Agnipushtikara, Vrishya, Asrika prasadana and Vataghana. Guda helps in translocation of coal particles from lungs to tracheobronchial lymph nodes.<sup>[35]</sup>

## CONCLUSION

Currently Bronchial Asthma is a burning problem as its incidence and prevalence is skyrocketing. A potent medicine for its cure is today's requirement. Haridradi Avleha mentioned in *yogratnakar* could play this role. It is composed of Haridra, Maricha, Draksha, Munakka, Guda, Rasna, Shati. All these contents have properties through which it can break the pathogenesis of Tamaka Shwasa. Further, various researches have already been conducted in favour of their anti-asthmatic properties. So

we can use this medicine for the treatment of Tamaka Shwasa.

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