



**SHUNTI ARKA AS DHUMAPANA IN THE MANAGEMENT OF TAMAKA SHWASA  
W.S.R. TO BRONCHIAL ASTHMA- A CONCEPTUALIZED STUDY**

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**ABSTRACT**

*Tamaka Shwasa* is one of the major disease explained in our *Ayurvedic* classics produced due to vitiation of *kapha* and *vata dosha* in *pranavaha srotas*, is analogous to Bronchial Asthma as explained in modern medical science. India has an estimated 15-20 million asthmatics and mortality due to Bronchial Asthma is not comparable in size to the day-to-day effects of the disease. It is a disease characterized by recurrent attacks of breathlessness and wheezing which vary in severity and frequency from person to person. The *nidanas* for *Tamaka Shwasa* are *raja*, *dhuma*, *vata sevana*, residing in *sheeta stana*, *sheeta jala sevana*, *ati vyayama* etc. Asthma is a chronic condition, it usually requires continuous medical care and medication is not the only way to control Asthma. The inhalation route has been developed to administer the drugs by delivering to site of action and to get immediate effects. The drugs used in Allopathic medicines causes side effects like dry or irritated throat, sneezing, stuffy or itchy nose, watery eyes, nose bleed, nausea, frequent urination, dizziness, drowsiness, headache, skin rash, bruising, severe tingling, numbness, pain, muscle weakness, joint pain and general illness but as it is a herbal preparation it minimizes the side effects. Most of our *Acharyas* explained different treatment modalities in the management of *Tamaka Shwasa* especially *Dhumapana* using different drugs but a unique concept '*Arka*' for *dhoomapana* is explained by *Ravana* in *Arka Prakasha*. Hence efforts are put forth to conceptualize the effect of aqueous extract - *Arka* for inhalation in *Tamaka Shwasa* through Nebulization and parallel new perspective to rising trend in cases of treating Asthma.

**KEYWORDS:** *Tamaka Swasa*, Bronchial Asthma, *Dhumapana*, *Arka*, *Shunti*.

**DETAILS OF PRESENTATION**

- 1) BACKGROUND
- 2) OBJECTIVES
- 3) REVIEW OF LITERATURE
- 4) MATERIAL AND METHODS
- 5) INHALATION PRINCIPLES
- 6) PARTICLE SIZE
- 7) MODE OF ADMINISTRATION
- 8) MODE OF ACTION
- 9) DISCUSSION
- 10) CONCLUSION
- 11) LIST OF REFERENCES

**BACKGROUND AND OBJECTIVES**

*Tamaka Shwas*, one of the major disease explained in our classical texts of *Ayurveda* produced due to vitiation of *Kapha* and *Vata dosha* with the involvement of *Rasa dhatu* in *Pranavaha srotas*, is analogous to Bronchial Asthma as explained in modern medical science. India has an estimated 15-20 million Asthmatics and one in every six child under the age of 16 is affected. Mortality due to Asthma is not related to the day-to-day effects of

the disease. *Tamaka Shwasa* in severe condition is life threatening and needs emergency supportive measures, also told in *Charaka Samhita* in *Hikka Shwasa adhyaya* as *atyayika* condition.

A pattern of geographical distribution began to emerge from international cross-sectional studies such as European Community Respiratory Health Survey (ECRHS) and the International Study on Asthma and Allergies in Childhood (ISAAC) that provided a comparable data on the prevalence of Asthma in different parts of the world with some explanations. Highest prevalence of Asthma was observed in westernized countries and the lowest prevalence in most developing countries. Therefore, the prevalence of Asthma is higher in countries where a transition from a traditional to a industrialization of life style occurred earlier, suggesting that a given population experiences a progressive increase in Bronchial Asthma during the process of industrialization.<sup>[1]</sup>

In *Ravana's Arka Prakasha* different "Arka Pana" for all the diseases are explained.<sup>[2]</sup> Hence effort is put forth to conceptualize *Arka* for *Dhoomapana* with certain modifications. The aqueous extract of *Arka* for inhalation in *Tamaka Shwasa* through Nebulizer is a unique concept tried here to parallel new perspective to rising trend in cases of treating *Tamaka Shwasa* and minimizing the side effects.

### OBJECTIVES

- 1) To conceptualize *Arka* explained for *Panartha* for the purpose of *Dhoomapana* by inhalation method with certain modification and convenient administration.
- 2) To conceptualize the therapeutic effect of *Arka Dhoomapana* in the form of inhalation in *Tamaka Shwasa*.
- 3) To conceptualize *Arka Dhoomapana* as *Atyayika Chikitsa* i.e. emergency and supportive treatment in *Tamaka Shwasa*.

### REVIEW OF LITERATURE

*Brihatrayies* and *Laghutrayies* have given a detailed description regarding five varieties of *Shwasa roga* and *Tamaka Shwasa* is one among them. Here the vitiated *kapha* in *Pranavaha srotas* obstructs *Vata* to produce *Shwasa lakshanas*.<sup>[3]</sup> The condition like *Shwasane Krichra Jeevane* refers to increased respiration with a great distress, where the life is at risk.

The *lakshanas* of *Tamaka Shwasa* in *Brihatrayees* are said to be *Ati teevra vega shwasa* (Dyspnoea), *Guruguraka* (Wheezing), *Pranapeedana* (Discomfort), *Kasa* (Cough), *Pratamyati* (loss of consciousness), *Sannirudyati* (Immobilized), *Kantodwamsa* (Throat irritation), *Krichrat shaknoti bhashitam* (difficulty in speaking), *Na labhate nidra* (sleeplessness), *Shayanashaya swasa peeditha aseena labhate soukhyam* (Discomfort in lying down posture, comfortable in sitting posture), *Shayanasya sameerana parswagrahanti* (discomfort in sides of chest in lying down posture), *Ushna abhinandana* (like hot things), *Uchritaksha* (wide opened eyes), *Lalata swedana* (sweating on forehead), *Brushamarthi* (maximum distress), *Shushkasyata* (dryness of mouth), *Muhuswasa*, *Muhuschaiva avadhmyati* (short breath with all effort to breath), *Megha, ambu, sheeta, pragvata shelshmalancha pravardhanti* (increase after exposure to cloudy weather, breeze, cold water and kaphakara ahara).<sup>[4]</sup> In *Tamaka Shwasa* it can be inferred that only few symptoms like *shwasa krichrata, kasa, gurguraka* and *pranapeedana* appears to be the *pradhana lakshana* and we can also consider these symptoms as *prathyatma lakshana* because these four symptoms are the direct manifestation of the pathological process. *Charaka* opines *anaha, parshwa shoola, hritpeeda, pranavilomata* as the *Poorva roopa* of *Tamaka shwasa*.

Asthma is a chronic inflammatory disorder of airway characterized by a reversible airflow obstruction causing

cough, wheeze, chest tightness and shortness of breath, which vary in severity and frequency from person to person. In an individual, they may occur from hour to hour and day to day.<sup>[5]</sup> The strongest risk factors for developing asthma are exposure, especially to indoor allergens (such as domestic mites in bedding, carpets and stuffed furniture, cats and cockroaches) and a family history of Bronchial Asthma or allergy, exposure to tobacco smoke and chemical irritants in the workplace. The cold weather, extreme emotional disturbance and physical exercise can exacerbate Bronchial Asthma.<sup>[6]</sup>

Bronchial Asthma is classic example of immediate hypersensitivity reaction to extrinsic antigens IgE, already attached to mast cell membranes, combining with antigens to trigger the release of mast cell mediators i.e. mainly Histamine. Symptoms often develop within minutes of exposure but, not all rapid clinical responses of this type necessarily involve type 1 sensitivity. Bronchial Asthma is a condition characterized by generalized but reversible bronchial airway obstruction. Patient present with dyspnoea and wheezing due to increased resistance for the passages of exhaled air.<sup>[7]</sup>

Frequent exposure to environmental factors or else repeated attacks of *Tamaka Shwasa* tends to weaken the *Pranavaha Srotas* there by worsening the situation. Chronic and recurrent occurrence of disease determine the poor prognosis of the illness, in the classics, *Tamaka Shwasa* is labeled as a *Yapya Vyadhi*. *Shodhana, shamana, nidana parivarjana* plays a major role in treating the disorder which does the *samprapthi vighatana*.<sup>[8]</sup> As the *Vata* and *Kapha* are the important *dosha* and being *Amashayotha vyadhi*, *Shodana* is the best treatment by means of *Vamana* and *Virechana*. In *Kapha adhika balasta* patient it is to be managed by *Vamana* followed by *Virechana*, *Patya*, *Dhumapana*, *Lehadi Shaman* *Aushadies*. If *Vatikan* *durbala* patient such as *baala, vrudha* are to be treated with *Tarpana* and *Shaman* which includes *Sneha Yusha*.<sup>[9]</sup>

The treatment in Modern Science includes long term control medications like Anti inflammatory agent, Long acting broncho dilators, antileukotrienes, Short Acting medicines like Beta2 agonists, Anti cholinergic, Phosphodiesterase inhibition, Glucocorticoids and Anti microbials.<sup>[10]</sup>

//*Kooshmandakashipharkastu koshnaha shwasam kshanaddaret* |

//*Ardrakarko makshikena yukthaha shwasanivaranaha* // (Ar.Pr. 5/46)

In *Arka Prakasha*, while explaining different type of drug preparations for *Tamakashwasa* it is stated *Shunti Arka is beneficial* due to vitiation of *Kapha Vata hara* and *ushna* properties.

### MATERIAL AND METHODS

#### SHUNTI

**Latin Name:** Zingiber Officinale

**Family:** Zingiberaceae

**Synonyms:** *Vishwa, Nagara, Vishwabheshaja, Ushana, Katubhadra, Shringavera, Mahoushadha.*

// *Shunti vishwa cha vishwancha nagaram vishwabheshajam* /

//*Ushnam katubhadrancha shrungaveram mahaushadham* //

//*Shunti ruchyaamavataghni pachani katuka laghuhu* /

//*Snigdhoshana madhura pake kaphavata vibandhanuth* //

//*Vrushya swaryaavamishwasashoolakasahrudaamayan* /

//*Hanti shleepadashotharsha anahoudaramaarutaan* // (*Bhava Prakasha-Haritakyadi Varga*)

#### RASA PANCHAKA

RASA: *Katu*

GUNA: *Laghu.*

VEERYA: *Ushna*

VIPAKA: *Madhura*

DOSHAGHATA: *Kaphavatahara*

ROGAGHATA: *Swarabheda, Vamana, Swasa, Shoola, Kasa, Hridroga, Shoola, Shleepada, Arshas Udara, Anaha.*

CHEMICAL COMPOSITION: *Gingerol, Shogaol, Essential oil.*

#### METHOD

//*Esham nalam shechurnayitwa vishamsham nikshipejjalam* /

//*Muhurthamushne samstapya grahyo arko vibudhottamayhi* // (*Ar.Pr. 2/15*)

1 part of fresh *Shunti* was cleaned with water and smashed. Then it was transferred into a distillation apparatus with attached condenser. Twenty parts of water was added and the apparatus was closed securely. The apparatus was heated for 1 *muhurta* (48 minutes) and then the *Arka* was collected which was draining out of the receiver after leaving first 5 to 7 drops. Then the *Arka* was collected till water is reduced to 50% of total water taken. The collected *Arka* was stored in an air tight glass bottle.

#### INHALATION PRINCIPLES

Inhalation of chemicals prevents the most rapid and direct avenue of entry because of the intimate association of air passage in the lung with the circulatory system. When a foreign agent is inhaled it may be deposited in the respiratory tract and subsequently absorbed, exhaled or neutralized by the lungs defense. They are intended for administration to the lower respiratory tract for local or systemic effect by adversely affecting the functions of the mucosa of the respiratory tract and its cilia. The preparations are supplied in multi dose or single-dose containers provided with a suitable administration device. Two categories of preparations for inhalation may be distinguished: liquid and solid preparations like powders, tablets, capsules that consist of one more active ingredient. These preparations are converted into an aerosol and are generally administered by nebulizers, by

pressurized metered dose inhalers or by dry-powder inhalers.<sup>[11]</sup>

#### PARTICLE SIZE AND PH

The size and shape of very small particle, if less than 5 micron m. dia. can affect their solubility (May and Kolthoff, 1948). As particle size decrease solubility will increase. The ph of the liquid used for inhalation should not be lower than 3. If a liquid is provided in concentrated form, it should be diluted in the nebulizer to the prescribed volume before use.<sup>[12]</sup>

So it was made sure during the preparation of *Arka* the particle size was less than 5 micron m. dia. and ph is maintained. The lab report of particle pointer and ph is attached.

#### MODE OF ADMINISTRATION

MEDICINE – *Shunti Arka*

DOSE – 5ml.

MODE – Nebulizer.

#### MODE OF ACTION

*Shunti* mainly acts on *Tamaka Shwasa* by its *Vatakaphahara* and *Ushna Veerya* properties. Its *bhedana karma* mainly helps in *Kapha Bhedana* and helps in clearing *Marga Avarana* caused by *Kapha* and providing easy movement of *Vayu*. The essential oil of *Shunti* contains *Gingerol*, *Shogaol* is found to have Anti tussive, Anti bacterial, Anti histaminic, Anti microbial action which helps in relieving the symptoms especially broncho constriction.

A study from researchers at Columbia University stated purified components of the spicy root *Ginger* may have properties that help asthma patients breathe more easily. The researchers found that tissues treated with the combination of purified ginger components and isoproterenol exhibited significantly greater relaxation than those treated only with isoproterenol. Of the three ginger components, 6-shogaol appeared most effective in increasing the relaxing effects of the  $\beta$ -agonist. The results of the study was presented at the ATS 2013 International Conference.

#### DISCUSSION

The *Chikitsa* of *Shwasa* mainly bifurcated under two heading.

//*Balawani eka, Durbala apara, kaphadika eka rukshaha bahu anilaha aparaha*// (*Ch.Chi 17/88*)

*Kapha adhika, balasta* is to be managed by *Vamana* followed by *Virechana, Patya, Dhumapana, Lehyadi shamana Oushadies. Vatadikya, durbala* such as *Baala, Vrudda* are to be treated with *Tarpana* and *Shaman Chikitasa* which includes *Sneha Yusha*.

The *Acharyas* have considered same line of treatment for both *Hikka* and *Shwasa* on account of their identity in *Karana, Sthana* and *Moola*. The *Vaidya* should treat the

patient of *Shwasa* in *Bahu dosha* condition with *Sneha* and *Sweda* like *Nadi sweda*, *Prastara sweda*, *Sankara sweda* after doing *Abhyanga* with *Taila* consisting *Lavana* and then followed by *Vamana* followed by *Virachana*.

||*Aaktam lavanamthailena nadi prastara sankaraihi*  
||(Ch. Chi.17/71)

*Chakarapani* commenting on *Chikitsa Sthana* 17<sup>th</sup> Chapter /77-80 states.

||*Etena dhoomo vamanam vina api swalpa doshe kartavya eva, tatrapa dhooma vishaya doshastha vidyamana twath* || (*Chakarapani Teeka on CS*)

Thus these days patient suffering from *Tamaka Shwasa* / Bronchial Asthma with mild symptoms experienced by them on exposure to various triggering factors like *Rajo*, *Dhuma*, *Vata sevana*, residing in *Sheeta stana*, *Sheeta jala sevana*, *Ati vyayama* approach any physician whenever can be administered *Dhoomapana* directly. In this manner *Acharya Chakarapani's* statement- *Tamaka Shwasa* can be treated with *Dhoomapana* alone without *Vamana* if a condition is arising out of *Swalpa dosha* and further line of treatment which includes the advice of *Oushadhies* or *Ahara* or *Pana* should have *Kapha Vataghna* and *Ushna* property can be substantiated here.

*Tamaka Shwasa* can attain acute condition any time during the course of illness. In 69<sup>th</sup> *shloka* of *Shwasa* and *Hikka chikitsa adhyaya* of *Charaka Samhita* it suggest if immediate measures is not instituted it is 'Pranahara' (fatal). Hence, *Atyayiki chikitsa* i.e., emergency and supportive treatment should be instituted. Thus the improvised method of *Dhoomapana* like inhalation of the drugs which would act on the target organ, the lung directly to the need of hour is established here.

Also there is a specific instruction given in the same chapter 148<sup>th</sup> quotation the drugs which alleviates *Kapha* but aggravate *Vayu* and vice versa should never be used along with this *Chakarapani* quotes *Kapha Vataghna chikitsa* is *Pradhana chikitsa*. In this context the drug *Shunti* holds the properties to balance these *doshas* and it is a very easily available drug everywhere throughout the year having the property *Kapha Vataghna*, *Ushna* thus this drug was selected.

Nebulization is a method which is very popular these days to manage mild symptoms of *Tamaka Shwasa* with certain modifications and *Dhoomapana* can be administered as nebulization. There by *Shunti* *Arka* which has the *Kapha Vataghna* and *Ushna* properties and *Dhoomapana* which is advised to be given in *swalpa dosha* without *Vamana* can be best alternative method for the management of *Tamaka Shwasa*.

Hence with this background *Shunti Arka* was prepared and tried on 5 patients and the results were encouraging in reducing the symptoms.

## CONCLUSION

- *Dhoomapana* is one of the procedure performed particularly when *alpa dosha* is present and also for *shodhana anarha* patients, as told in the classics. *Dhoomapana* is one such procedure to dispense the drug directly into the target organ through inhalation.
- Use of inhalation of *Shunti* extract through nebulizer in mild to moderate condition is of utmost benefit to the patient, as it reduces the chest tightness along with good expectoration and a reduction the intensity of ronchi.
- Based on the above references a single drug *Shunti* has good broncho dilatation effect as outcome of inhalation was found less than 20 minutes in reduction of symptoms and increase of PEFR.
- Since it was a pilot study conducted on 5 patients, it is advisable to carry out the study on big sample to understand the further efficacy of the drug and the untoward effect of the drug formulation on the patients.

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