



## Clinical Research

## Clinical effect of *Virechana* and *Shamana Chikitsa* in *Tamaka Shwasa* (Bronchial Asthma)

Kuntal A. Ghosh, Paresh C. Tripathi<sup>1</sup>

Ph.D. Scholar, Department of Kaya Chikitsa, Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar, Gujarat, <sup>1</sup>Head and Reader, Department of Kaya Chikitsa, Institute for Post Graduate Ayurveda Education and Research at Shyama Das Vaidya Shastrapith Hospital, Kolkata, West Bengal, India

### Abstract

To evaluate comparative efficacy of *Samshodhana* and *Samshamana Chikitsa*, the current study is planned in 24 patients of *Tamaka Shwasa*. Thirteen patients (Group A) were treated with *Samshodhana*, particularly with *Virechana Karma*. The patients of this group received *Abhyantara Snehana* with *Tila Taila* followed by *Bahya Snehana* with *Tila Taila* and *Saindhava Lavana*. After observations of proper signs of *Snehana*; *Virechana Karma* was performed with *Aragvadha Phala Majja*. *Samsarjana Krama* was followed for five days. Subsequently all the patients were given the trial drug (powder of *Badara*). The patients of group B, were treated only with the powder of dried ripe fruits of *Badara*. In both groups, the dose of *Badara* powder was 5 g, twice a day, with luke warm water, for a period of 60 days. In group A, maximum number of patients (61.45 %) showed good response, while in group B, 45.45 % patients showed good response. No side effects were observed during the clinical trial. Based on the observations, it was concluded that, group A is more effective than group B.

**Key words:** *Aragvadha Phala Majja*, *Badara Phala Majja*, Bronchial Asthma, *Tamaka Shwasa*, *Virechana Karma*

### Introduction

*Tamaka Shwasa* is a type of *Shwasa Roga* (respiratory disease) affecting the *Pranavaha Srotas* and characterized by *Pratiloma Vayu* (prolonged expiration), *Ghurghuraka* (wheeze), *Ativa Tivra Vagam Ca Shwasam Pranaprapidakam* (dyspnoea of exceedingly deep velocity, which was immensely injurious to life) and so on.<sup>[1,2]</sup> *Tamaka Shwasa*, in Ayurvedic classics seems to be identical with the description of bronchial asthma in modern medicine. Bronchial asthma is a major global health problem, which can affect the population irrespective of age, sex, economical status, etc. At present, asthma is reported in 1.2 – 6.3 % adults in most countries.<sup>[3]</sup> About 300 million people worldwide suffering from asthma and the number has risen by around 50 % in the last decade.<sup>[4]</sup> There are only a few studies from India on epidemiology of asthma. Overall burden of asthma in India is estimated to be more than 15 million patients.<sup>[4]</sup> Five percent of children under 11 years have asthma in India.<sup>[5]</sup> Asthma was diagnosed in 2.28, 1.69, 2.05 and 3.47 % respondents, respectively, at Chandigarh, Delhi,

Kanpur and Bangalore with an overall prevalence of 2.38 %.<sup>[6]</sup>

A number of drugs are available in modern system of medicine to counter this condition, but are known to develop various adverse drug reactions. Considering these reactions, the suffering population is searching certain traditional remedies for better relief that are comparatively safe in nature. Ayurveda can provide promising results in *Tamaka Shwasa* through a set of treatment modalities. *Shodhana* and *Shamana* are some of such modalities. Currently, an attempt has been made to evaluate comparative efficacy of *Shodhana* and *Shamana Chikitsa* in case of *Tamaka Shwasa*.

### Materials and Methods

Patients fulfilling the criteria of *Tamaka Shwasa* (Bronchial Asthma) were registered in the clinical study, irrespective of sex and religion from the Outpatient Department of *Kayachikitsa* at S.V.S.P hospital attached to the I.P.G.A.E and R, Kolkata.

### Inclusion criteria

- (1) Age: Patients between 17 to 70 years of age.
- (2) Presence of features of *Tamaka Shwasa*.
- (3) Patients not taking any other medicines for *Tamaka Shwasa*.

### Exclusion criteria

Patients suffering from major disorders like hypertension,

**Address for correspondence:** Dr. Kuntal A. Ghosh, Ph.D. Scholar, Department of Kaya Chikitsa, I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar - 361008, Gujarat, India  
Email: vaidyakuntal@gmail.com

cardiac asthma, tropical pulmonary eosinophilia, acute and chronic bronchitis, bronchiectasis, spontaneous pneumothorax, complicated bronchial asthma, drug dependent cases and pregnant women were excluded from the study.

### Criteria for diagnosis

A detailed history and physical examination was done on the basis of the standard proforma, which included both Ayurvedic and modern methods of examination: *Agnibala*, *Dehabala*, *Prakriti* were recorded. For selection of the patients the diagnosis was based on subjective criteria and objective criteria as follows:

**A. Subjective criteria:** Presence of symptoms<sup>[1]</sup> of *Tamaka Shwasa*. The symptoms were based on textual references like *Pratiloma Vayu* (prolonged expiration), *Ghurghuraka* (wheeze), *Ativa Tivra Vegam Ca Shwasam Pranaprapidakam* (dyspnea of exceedingly deep velocity, which was immensely injurious to life), *Shlesmanyamucyamane Tu Bhramam Bhavati Duhkhita* (as the phlegm does not come out, the patient became more restless), *Uddhvamsate Kantha* (choked throat), *Asino Labhate Saukhyam* (comfortable in orthopnea position), *Tasyaiva Ca Vimoksante Muhurtam Labhata Sukham* (patient found momentary relief after the expulsion of phlegm), *Shayanah Shwasapiditah* (patient had more dyspnea when lying down), *Ruksa Bhasana* (hoarseness of voice).

**B. Objective criteria:** As objective criteria, the following investigations were carried out –

(a) Blood: Total leucocytes count, differential leucocyte count, hemoglobin percentage, Erythrocyte Sedimentation Rate (ESR), (b) Stool: Routine microscopic examination of the stool., (c) Urine: Routine urine examination, (d) Radiological examination: X-ray of the chest, (e) Pulmonary Function Tests: (i) Breath Holding Time and (ii) Peak Expiratory Flow Rate.

**Plan of study:** Total 24 patients have been enrolled in the trial and were divided into two groups viz *Samshodhana* and *Samshamana* (Group A) and *Samshamana* (Group B).

(A) 13 Patients in group A, received *Samshodhana* therapy (*Virechana Karma*). *Snehana* (oleation therapy) with *Tila Taila* in increasing dose (1<sup>st</sup> day – 40 ml, 2<sup>nd</sup> day – 80 ml, 3<sup>rd</sup> day – 120 ml, 4<sup>th</sup> day – 160 ml and 5<sup>th</sup> day – 200 ml) was administered to produce the optimum *Snehana* effects. The duration of intake of *Snehapana* in all cases was five days. On the 5<sup>th</sup> day the features of proper oleation were observed. Along with internal oleation, external oleation of the patients was done with *Til Taila* added with *Saindhava Lavana* particularly over the chest and back was done.

After observing the features of appropriate oleation like *Snigdha Tvaka* (smoothness of the skin), *Snigdha Purisha* (oleous motion) and *Utklesha* (nausea); *Svedana* was followed for two days. For *Svedana* (fomentation), patients were advised to wrap 6 to 10 blankets till perspiration is observed. After observation of the features of proper *Snehana* and *Svedana*, the patients were considered ready for the *Virechana Karma*. On the next day at 9 a.m. (*Kaphakala Atigame*), the patients were given decoction of *Aragvadha Phala Majja* on empty stomach for *Virechana Karma*. *Samsarjana Karma* was followed for five days for all the 13 patients. Thereafter, dried ripe fruits of *Badara* were administered in powder form to all the patients, in a dose

of 5 g, orally, twice a day, morning and evening after breakfast with luke warm water for a period of 60 days.

11 patients in group B received 5 g of dried fruit pulp of *Badara*, in powder form, orally, twice a day, morning and evening after breakfast with luke warm water for a period of 60 days.

### Criteria for assessment

The improvement in the patients was assessed mainly on the basis of relief in the signs and symptoms of the disease. To assess the effect of therapy objectively, all the signs and symptoms were given a score depending on their severity. Objective parameters like Breath Holding Time (BHT) and, Peak Expiratory Flow Rate (PEFR) were also considered for assessment. The signs and symptoms were recorded from the first day of treatment and then at every 14-day intervals, during the course of treatment. Gradations of the symptoms were made depending on the severity.

### Total effect of therapy

**Excellent response:** The patients were included in the excellent result group when they showed complete relief in the clinical signs and symptoms as well as improvement in investigations.

**Good response:** The patients were included in the good response group when their clinical features improved more than 50 percent and the investigations like BHT, PEFR, TLC and ESR were improved moderately.

**Poor response:** The patients were included in the poor response group when the improvement in their signs and symptoms was less than 50 percent, with negligible improvement or no improvement in the investigations like BHT, PEFR, TLC and ESR.

### Statistical analysis

Data obtained from the above-mentioned study was statistically analyzed by using the paired and unpaired 't' tests.

### Observations and Results

Maximum number of patients (41.67 %) were in the age group of 31 to 45 years, 66.67% were males; 62.50 % were Hindus, and 83.33% were married. Maximum number of patients belonged to the low economic status (75 %), 62.59% from rural habitat, 29.17% were addicted to smoking and 75% had winter sensitivity. Maximum number of patients had dietetic (cold) hypersensitivity, that is increasing of signs and symptoms due to cold drinks (50%), irregular bowel movements (62.50%), poor digestion (66.67%), a non-vegetarian diet (62.50%), no history of past illness (70.83%), no family history of *Tamaka Shwasa* (66.67%), were hard working (45.83%), *Madhyama Koshtha* (45.83%), and had a sudden onset (54.17%) [Table 1].

Statistically significant results were found in both groups on all clinical [Table 2] and objective features [Table 3]. On comparison Group A showed significant results than group B.

After a period of 60 days, good results observed in group A was 61.45% and 38.54% showed poor response to the treatment, whereas in group B, 38.54% patients showed good response and 54.54% showed poor response to the treatment [Table 4].

**Table 1: Personal and primary history wise distribution of 24 patients of Tamaka Shwasa**

Personal history	N	%	Personal history	n	%
Age (31-45)	10	41.67	Environmental hyper-Sensitivity (winter)	18	75.00
Sex (Male)	16	66.67	Dietetic hypersensitivity (cold)	12	50.00
Religion (Hindu)	15	62.50	Bowel movement (irregular)	15	62.50
Occupation (Farmer)	10	41.67	Digestion (poor)	16	66.67
Social status (Married)	20	83.33	Work (hard)	11	45.83
Income status (Low)	18	75.00	Diet habit (non vegetarian)	15	62.50
Habitat (Rural)	15	62.50	Onset (Sudden)	13	54.17
Addiction (smoking)	7	29.17	Past illness (No history)	17	70.83
Family (Non-hereditary)	16	66.67	<i>Kostha (Madhyama)</i>	11	45.83

**Table 2: Effect of therapy on clinical features of Tamaka Shwasa**

Clinical features	Group A (n = 13)					Group B (n = 11)				
	Mean	SD	SE	t	P	Mean	SD	SE	t	P
Prolonged expiration	1.76	2.06	0.57	03.10	< 0.01	1.54	0.69	0.21	7.45	< 0.001
Cough	1.09	0.49	0.14	06.78	< 0.001	0.64	0.81	0.24	2.67	< 0.02
Rhinitis	0.92	0.64	0.18	05.21	< 0.001	0.64	0.50	0.14	4.26	< 0.01
Wheeze	2.46	0.66	0.43	05.72	< 0.001	1.55	0.69	0.21	7.45	< 0.001
Dyspnoea	1.85	0.55	0.15	12.30	< 0.001	1.88	0.87	0.26	4.54	< 0.001
Restlessness	1.69	0.48	0.13	13.07	< 0.001	1.45	0.69	0.21	6.90	< 0.001
Choked throat	1.23	0.44	0.12	10.11	< 0.001	1.00	0.77	0.23	4.35	< 0.001
Orthopnea	1.69	0.63	0.17	09.67	< 0.001	1.27	0.65	0.19	6.68	< 0.001
Relief after the expulsion of phlegm	1.46	0.51	0.14	10.14	< 0.001	1.36	0.81	0.24	5.67	< 0.001
More dyspnoea in lying position	1.62	0.51	0.14	11.50	< 0.001	1.27	0.47	0.14	9.07	< 0.001
Hoarseness of voice	1.38	0.51	0.14	09.86	< 0.001	0.81	0.88	0.26	3.00	< 0.02

**Table 3: Effect of therapy on objective features**

Objective features	Group A (n = 13)					Group B (n = 11)				
	Mean	S.D	SE	t	P	Mean	S.D	SE	t	P
BHT	17.615	8.231	2.282	7.719	< 0.001	5.00	2.86	0.86	5.8139	< 0.001
PEFR	78	28.03	7.77	10.038	< 0.001	20.909	23.855	7.192	2.9069	< 0.02
TLC	4077.9	3707.2	1028.2	3.96	< 0.01	6272.72	3875.32	1168.4	5.3683	< 0.001
ESR	13	5.49	1.52	8.55	< 0.001	4.72	3.07	0.93	5.1010	< 0.001

**Table 4: Overall effect of therapy**

Total effect	group a (n = 13)	%	group b (n = 11)	%
Excellent	00	00	00	00
Good	08	61.45	05	45.45
Poor	05	38.54	06	54.54

## Discussion

Comparative data revealed that the 'p' value in almost all the features was highly significant, except *Pratiloma Vayu*, where the response was moderately significant in group A. On the other hand the response in group B was highly significant in maximum subjective features. The response to *Pinasa* was moderately significant, whereas that to *Kasa* and *Ruksa Bhasana*

was less significant in group B. From the data of the objective features, the 'p' values were almost highly significant ( $P < 0.001$ ) in the maximum parameters. When the overall effect of therapy was considered, it was found that the response in group A was highly significant when compared to group B [Table 3]. Hence, it can be concluded that the *Shodhana* with '*Badara Churna*' is more effective. The results are encouraging and support the classical claim that *Badara* is effective in alleviating the symptoms of *Tamaka Shwasa* and can be used extensively in the treatment.

## Probable mode of action of the drug

*Charaka* has advised *Samshodhana* in *Tamaka Svasa* & has given more emphasis on *Virechana Karma*<sup>[7]</sup> to correct the de-arranged *Doshas* (*Vata* and *Kapha*). In addition, ingredients that alleviate *Vata* and *Kapha* (*Kapha-Vataghnam*), *Ushna Virya* (hot in potency) and which cause a downward movement of

Vata (Vatanulomanam) are useful as medicines (Bhesaja), Pana (drinks), and Anna (food) for a patient suffering from asthma.<sup>[8]</sup> A number of drugs are described for Virechana Karma in classical texts. Out of these, for the present study Argyvadha (*Cassia fistula* Linn) was selected. Charaka has considered it as the best Mridu Virechana Dravya<sup>[9]</sup> and Badara (*Zizyphus jujuba* Lam) is considered as useful in Shwasa by Sushruta<sup>[10]</sup> Govinda Das<sup>[11]</sup> Argyvadha<sup>[12]</sup> is Madhura, Tikta Rasa; Guru, Mridu, Snigdha Guna; Shita Virya and Madhura Vipaka. Hence, the drug is useful as Vata-Pitta Shamaka. Due to Madhura, Snigdha Guna it helps in Vatashamana as well as Kaphanihsarana and due to Sransana<sup>[13, 14]</sup> property it excretes Kosthagata Kapha and Pitta. In Ashtanga Hridaya, Argyvadha is described in the Kaphaghna Gana<sup>[15]</sup> and in Sushruta Samhita, Argyvadha has been described as the Adhobhagadosahara Dravya.<sup>[16]</sup> As per Charaka Samhita, Argyvadha is the best Mriduvirecana drug. Therefore, it helps in Kapha Nirharana along with Vatanulomana. Thus, the drug helps in Dosh-Dushya Vighatana in the disease Tamaka Shwasa.

According to different Ayurvedic textual references, Badara Phala Majja possesses Madhura, Amla, Kasaya Rasa; Laghu, Snigdha Guna; Shita Virya and Madhura Vipaka. As per Charaka, Badara has been described in Virechanopaga Mahakasaya<sup>[17]</sup> as Virechana Dravya<sup>[18]</sup> and also described in Amla Skandha.<sup>[19]</sup> As per Sushruta, Badara has been described in Vata Samshamana Varga.<sup>[20]</sup> Hence, the drug fulfils the criteria<sup>[21]</sup> of the line of treatment described in Charaka Samhita, Chikitsasthana.

## Conclusion

Tamaka Shwasa is a type of Shwasa Roga affecting the Pranavaha Srotas, which is significantly distressing and a fatal disorder of the present-day-life. Tamaka Shwasa has been described in various Ayurvedic classics and seems to be identical to bronchial asthma. On comparative analysis of the data, it appears that Shodhana Chikitsa is more effective than Shamana Chikitsa in Tamaka Shwasa. On the basis of the findings it can be concluded that Virechana Karma, a purification therapy is the potential procedure for the treatment of Tamaka Shwasa. Badara Phala Majja Churna is found to be an effective drug for Tamaka Shwasa. It has also been observed that the drug is found to be more effective in patients after purification. No side effects have been observed during the present study. Further studies in this direction are essential in a good number of cases, for a longer period, to establish probable mechanism of action of the drug.

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## हिन्दी सारांश

# तमकश्वास (ब्राँकियल अस्थमा) की चिकित्सा में विरेचन कर्म का प्रभाव एवं बदर द्वारा शमन क्रिया का एक तुलनात्मक अध्ययन

कुन्तल घोष, परेश सी. त्रिपाठी

प्रस्तुत अध्ययन में कुल २४ तमक श्वास के रूग्णों को पंजीकृत करके दो वर्गों में बाँटा गया। प्रथम वर्ग में आरग्वध फ़लमज्जा का क्राथ देकर विरेचन एवं तत्पश्चात बदरास्थि चूर्ण (५ ग्राम दिन में दो बार, गरम पानी के साथ) द्वारा शमनचिकित्सा ६० दिनों तक दी गयी और दूसरे वर्ग में केवल बदरास्थि चूर्ण ५ ग्राम दिन में दो बार, गरम पानी के साथ ६० दिनों तक दिया गया। प्रथम वर्ग में चिकित्सा द्वारा ६९.४५ प्रतिशत रूग्णों को उत्तम लाभ मिला, जबकि द्वितीय वर्ग में ४५.४५% रूग्णों को उत्तम लाभ मिला। लाक्षणिक दृष्टि से प्रथम वर्ग में विशेष रूप से कास, पीनस, अति तीव्र वेगम् च श्वासम् – प्राण प्रपीडकम्, असीनो लभते सुखम्, Choked throat, Orthopnea, आदि में तुलनात्मक रूप से अधिक सार्थक लाभ मिला।

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