



Research Article

EFFICACY OF VIRECHANA KARMA WITH TRIVRUTTADI LEHA YOGA IN THE MANAGEMENT OF TAMAKA SHVASA (BRONCHIAL ASTHMA)

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ABSTRACT

Bronchial asthma is a highly prevalent disease and in most of the etiopathogenesis and symptomatology bronchial asthma can be co-related to that of *Tamaka Shvasa*. As the disease is originated from *Pittasthana*, *Virechana Karma* is indicated in the treatment of *Shvasa Roga*. In *Charak Kalpasthana* there are many *Virechana Yogas* are mentioned with different *Kashay Kalpana*. So, the present study is carried out to study efficacy of *Virechana* with *Trivrutta* in combination with other *Drayas* mentioned in *Kalpasthana* in the form of *Leha Kalpana* specifically indicated in *Shvasa Roga*. **Aim:** To study efficacy of *Virechana karma* with *Trivrutta Leha Yoga* in *Tamaka Shvasa*. **Materials and Methods:** Total 15 patients fulfilling the diagnostic criteria of *Shvasa Roga* were selected from OPD & IPD of *Panchakarma* Department. The Sign and symptoms mainly breathlessness, cough, ronchi were given scores depending on their severity. The patients were also assessed for Lung Function Test to determine pulmonary impairment. For the purpose of *Virechana* they were given *Deepan Pachana* with *Trikatu Churna* for 3 days then they were subjected to *Snehapana* with warm cow's Ghee. The patients were given *Abhyanga* and *Bashpaswedana* for 4 days followed by *Virechana* with *Trivrutta Leha Yoga* and *Sansarjana Krama*. Follow up was done in an interval of 15 days for three times and scores were noted down before and after treatment. The scores were analyzed by using Wilcoxon Signed Rank Test for subjective parameters and Student paired 't' test for objective parameters. **Result:** The trial drug has shown statistically highly significant reduction in breathlessness, cough, rhonchi and significant changes in lung function tests. **Conclusion:** The formulation has proved its best purgative effect on bronchial Asthma and thus relieves the symptoms of disease immediately. It has reduced frequency of episodes of breathlessness and severity of symptoms.

KEYWORDS: Bronchial asthma, *Tamaka Shvasa*, *Trivrutta*, *Virechana*.

INTRODUCTION

The word *Tamaka Shvasa* is derived from word "Tam" means oppression of chest [1] which is similar to bronchoconstriction felt by the patient of Asthma due to resistive airways.

Bronchial Asthma is chronic inflammatory disease of airway hyper responsiveness that leads to recurrent episodes of breathlessness, wheezing, chest tightness and coughing particularly at night or early in the morning. The prevalence of self reported Asthma was 1.8% among men and 1.9% among women[2]. The prevalence of Asthma is increased over a recent decade due to abrupt change in lifestyle, rapid industrialization, increased population, excessive smoking and tobacco usage [3]. Faulty food habits leads to *Agnimandya* which is basic cause for initiation of *Samprapti* as *Mulsthana* of *Tamaka Shvasa* is *Pittasthana* [4]. Modern science also

accept the role of diet in bronchial Asthma as diet low in antioxidants and some foods such as shellfish and nuts may induce anaphylactic reaction [5].

In the pathology of *Shvasa*, *Kapha* is accumulated in *Pranvaha srotasa*, obstructs the path of *Vata* resulting in abnormal movement of *Vata* which in turn excites the *Kapha*. Thus a vicious cycle continues into breathlessness and *Kapha*[6]. Considering this fact in pathogenesis of disease it may assume that *Virechana Karma* is best therapy for complete elimination of vitiated *Pitta* in association with *Kapha* and regulates the movement of *Vata*[7]. Thus correcting all the factors involved in *Samprapti* of *Tamaka Shvasa*.

In *Charaka Kalpasthana* there are various Drugs mentioned for *Virechana Karma* as *Mrudu*,

Madhya and *Tikshna Virechana*. As *Trivrutta* is *Sukhavirechana* it eliminates vitiated *Doshas* completely without *Vatprakopa*. Also the ingredients mentioned in the formulation has *Kaphanissaraka* and *Vatanuloman* Properties. Therefore the present study was carried out to study its efficacy on Bronchial Asthma.

Materials and Methods

The study was conducted on the patients who reported in the outpatient and inpatient department of Panchakarma IPGT&RA, Jamnagar for the treatment of Bronchial Asthma.

Total 15 patients of *Tamaka Shvasa* (Bronchial Asthma) of both sexes having age in between 16 to 55 years with disease chronicity up to 10 years were selected for present study.

The study design was approved by Institutional Ethics Committee vide its letter no.PGT/A/Ethics/201112/2687/Dt 05/09/2011 and was also registered in clinical trial [CTRI/2014/01/004330] registry of India. Written informed consent was obtained from each patient before including in clinical trial.

Inclusion Criteria

- Patients having classical features of *Tamaka Shvasa* (Bronchial Asthma) mainly cough; breathlessness and ronchi were selected for the study.
- Raised ESR and Absolute Eosinophil Count.
- Patients having Peak Expiratory Flow Rate (50-200 L/min)
- Patients having Force Expiratory Volume (50-80%)

Exclusion Criteria

Patients suffering from Pulmonary Tuberculosis, CA of lung, Lung fibrosis, Lung abscess, Bronchiectasis, Corpulmonale, Ischemic Heart Disease, any other systemic illness were excluded from present study.

Posology

All the registered patients who met inclusion criteria and gave consent for the *Virechana* were administered *Trikatu Churna*^[8] for the first 3 days for *Deepana* and *Pachana*^[9] in the dose of 3g thrice a day with lukewarm water after meal. On the 4th day, after assessing the status of the patients, non medicated ghee in the dose of 30 ml was given in the early morning on empty stomach with lukewarm water. The patients were observed for *Sneha Jeerna Lakshana* and accordingly for the next 5-7 days, the dose of ghee was given in increased pattern till the patients achieved proper *Snehana* features (*Samyak Snigdha Lakshanas*)^[10]. After completion of *Snehapana*, whole body massage and fomentation was done for 3 days at morning and evening according to *Bala* of

patient. Patients were advised to take light diet in these 3 days. On *Virechana* day in morning after *Abhyang* and *Baspaswedana* patients they were given *Virechana Yoga* on empty stomach at 9 o'clock, and patients were advised to take hot water repeatedly.

Method of preparation of *Trivrutta Leha Yoga* ^[11]

For the preparation of *Trivrutta Leha Yoga* 12 gm. each coarse powder of *Trivrutta*, *Triphala* was added in each 3 gm coarse powder of *Vidanga*, *Pippali* and *Yavkshar*. It was then mix with Honey and *Ghrta* to make it in linctus form and become more palatable.

Thereafter, according to the type of *Shuddhi*, at the end of *Virechana* procedure, 3, 5, and 7 days of dietary regimen was advised which included *Peya*, *Vilepi*, *Akrita Yusha*, and *Krita Yusha* in a sequential pattern^[12].

After completion of *Virechana*, patients were asked to report after 15 days to record the details regarding the status.

Criteria for assessment:

Subjective parameters presented by the patients were given score and were assessed before and after performing *Virechana Karma*.

Gradation for Subjective parameters:

Shvasakastata

The MRC breathlessness scale was adopted for *Shvasa Kashtata*.

- 1- Not trouble by breathlessness except on strenuous exercise.
- 2- Short of breaths when hurrying on the level or walking up a slight hill.
- 3- Walks slower than most people on the level, stops after a mile or so, or stops after 15 min walking at own pace.
- 4- Stops for breath after walking about 100 yards or after a few minute on level ground.
- 5- Too breathlessness to leave the house, or breathlessness when undressing.

Kasa (cough) duration/severity

- 0- No cough
- 1- Occ. cough
- 2- 1-2 time /day
- 3- 2-5 time /day
- 4- Throughout day
- 5- Throughout day & night

Ronchi

- 0- No Ronchi
- 1 - Localized (inspiration/expiration)
- 2 - Scattered unilateral (inspiration/expiration)
- 3 - Scattered bilateral (inspiration/expiration)

- 4 - Generalized Ronchi (inspiration/expiration)
- 5-High pitched unilateral (inspiration/expiration)
- 6- High pitched bilateral (inspiration/expiration)

Objective parameters

Improvement in Lung Function Tests mainly Peak Expiratory Flow Rate and Force Expiratory Volume was observed. Changes in hematological parameters mainly ESR and AEC were also considered for assessment and they were assessed in comparison to the baseline score.

Statistical analysis

General data were subjected to suitable statistical analysis such as descriptive statistics for demographic data, Wilcoxon signed-rank test for nonparametric paired data, and paired t-test for quantitative parametric paired data. After preparing the master chart of all the required data in Microsoft Excel worksheet, statistical calculations were made with the help of Sigma Stat 3.5 software and InStat 3 software. The results were interpreted as significant ($P < 0.05$), highly significant ($P < 0.01$) and insignificant ($P > 0.05$).

Observations

Total 15 patients were registered in the study and out of them 14 patients completed the treatment. One patient dropped out due to migration. The demographic data shows that 73.34% patients were females, 80% belonged to age group of 26-45 years, 66.67% patients were house wife and 80% were laborers. Regarding *Prakruti* 53.33% were of *Kaphavata* dominant *Prakruti*. *Madhyama Koshtha* was found in 46.67% of patients followed by 33.33% patients having *Mrudu Koshtha*.

Disease chronicity of asthma up to ten years was found in 33.33% of patients, positive family history of asthma was found in 40% of patients, past history of frequent cold was found in 60% of patients while rhinitis in 53.33% of patients. Frequent use of inhalers (Beta agonists) was seen in 73.33% of patients followed by steroids in 46.67% of patients. *Amla Madhura Rasa* dominant *Aahara* was ingested by 66.67% of patients followed by 73.33% of patients taking *Snigdha Guna* dominant. *Dadhisevana* was observed in 66.67% of patients while fermented food was taken by 60% of patients; Irregular times of food were noted in 60% of patients and *Viruddhahara* was noted in 80% of patients.

Early morning breathlessness was observed in most of the patients followed by dry and productive cough in 40% of patients. Rhonchi was observed in 86.67% of patients and crepitations in 73.33% of patients. In 66.67% of patients dust, pollens and day sleep was observed as aggravating factors and extreme cold in 80% of patients. Relief in breathlessness after sitting position was observed in 53.33% of patients

Observations of Virechana Karma:

After giving *Virechana Yoga* it took Average 93 minutes for the beginning of first *Vega*. *Kaphanta Vega* observed in 53.33% of patients. *Madhyam Shuddhi* was observed in 66.67% of patients followed by *Pravara Shuddhi* in 20% of patients. Average no of *Vega* was 17.9 indicating that patient has *Madhyam* to *Pravara Shuddhi* and no complications were observed during *Virechana*. [Table.1]

Table 1: Virechana Karma observation chart

1	Average dose of <i>Virechana Yoga</i>	<i>Trivritta</i>	14.21 gm
		<i>Triphala</i>	13.73 gm
		<i>Vidanga</i>	4.1 gm
		<i>Pippali</i>	3.47 gm
		<i>Yavkshara</i>	3.13 gm
		<i>Madhu & Sarpi</i>	Q.S
2	Average time taken for the beginning of First <i>Vega</i>		93 min
3	Average no of <i>vega</i>		17.9
4	<i>Kaphanta</i>		53.33

Effect of therapy on subjective Parameters: *Virechana* with *Trivruttadi Leha Yoga* provide highly significant (< 0.001) result in *Kanthodhvansam* (throat irritation) (83.28%), *Thrust* (86.70%), relief after sitting position (97%), *Parshvagraha* (Abdominal discomfort) (86.65%), Rhonchi (72.72%), crepitations (99.96%).

Table 2: Effect of therapy on subjective parameter

S.No.	Chief complaints	N	Mean		% of imp.	S.D.	S.E	p
			BT	AT1				
1	Relief after sitting position	13	2.35	0.071	96.99	1.38	0.37	0.0002**
2	Throat irritation	11	1.28	0.21	83.28	0.82	0.22	0.0010**
3	Thrust	10	1.07	0.14	86.70	0.73	0.19	0.0020**
4	Abdominal discomfort	10	2.14	0.28	86.65	1.51	0.40	0.0020**
5	<i>Pramoha</i> (darkness in front of eye)	7	0.64	0.07	88.88	0.93	0.25	0.0469*
6	Urge of taking hot water or diet	9	1.21	0.07	94.15	1.099	0.29	0.0039**
7	Rhonchi	14	2.35	0.64	72.72	0.61	0.16	0.0001**
8	Crepitation	11	1.42	0.07	99.96	1.08	0.28	0.0010**

Effect of therapy on objective parameter

After *Virechana* with *Trivrutta Leha Yoga*, there is increase in hemoglobin% and reduction in ESR and AEC. All these changes reported were statistically insignificant ($P > 0.05$).

In lung function test Peak Expiratory flow rate and FEV was increased but all these changes were statistically insignificant.

Assessment of overall effect of therapy showed that *Virechana* with *Trivrutta Leha Yoga* provided complete relief in 16.67% of patients, marked improvement in 35.71% of patients, moderate improvement in 40.48% while 7.14% patients shows mild improvement.

DISCUSSION

It has been established that in all the patients of asthma, dyspnoea is due to mechanical interference in ventilation because of airway obstruction. It affects the rate and pattern of breathing. In 60% of patients, asthma attack was observed in early morning, which may be due to early morning fall in circulating adrenaline and decreased plasma cortisol concentration.^[13] In 86% of patients, wheezing may have resulted from localized or diffused airway narrowing or obstruction caused by broncho constriction, mucosal edema and tenacious secretions; coughing may be due to airway inflammation and hypersensitivity to the allergens. 53% of patients reported relief in sitting position because in sitting position diaphragm is lowered and secretion of airways will not obstruct the airways completely^[14].

Maximum number of patients had a habit of *Vishtambhi* (less fiber food), *Vidahi* (fermented food), *Vishama Aahara* (irregular food habits), *Diwaswapa* (day time sleeping) and *Ratrijagarana* (night awaking) which leads to improper digestion, *Aama* production, vitiation of *Pitta* and thus initiates the

disease process. In present study, 53.33% of patients were having *Kapha Vata Prakruti* because these persons are more prone to asthmatic attack due to vitiation of *Kapha* and *Vata* which are the main causative factors of the disease which occurs instantaneously due to dominant *Dosha*.^[15]

In present study *Trivrutta Leha Yoga* was selected due to its *Bhedana*, *Rechana*, *Anulomana*, *Kaphanissaraka*, *Lekhana* and *Rakta Shodhana* property. Also the formulation is very cost effective and all the ingredients can easily available. As, it is in linctus form it became more palatable. *Madhyam Shuddhi* was observed in 66.67% of patients and *Kaphanta Virechana* was observed in 53.33% of patients this indicates that the formulation is more potent enough to expelled more and more vitiated *Doshas* out of the body without *Vatprakopa*, and this may be the reason for using formulation specific to the disease.

In objective parameters, it was found that ESR was reduced by 31.78%, AEC was reduced by 25.87% as earlier researchers showed *Shodhana Karma* reduces histamine level in the body^[16]. PEFR and FEV1% was increased after *Virechana* because it relieves the spasm of tracheobronchial tree due to *Anuloma Gati* of *Vayu* and thereby facilitates easy expectoration.

Probable mode of action of *Virechana* with *Trivrutta Leha Yoga*

Trikatu Churna was given as *Deepana-Pachana* before *Abhyantara Snehapana* because their inherent property such as *Ampachana* and *Agnideepana*. *Aampachana* also helps to reduce *Pichhilata* of morbid matter so that they can be easily dislodged. *Snehapana* increases the fluidity and moistness in the body and makes the body soft and

unctuous; it helps in dislodging the harmful substances from the tissues. [16]

After taking *Virechana* drugs like *Trivrutta*, *Triphala* due to its *Rechaka*, *Bhedaka*, *Kaphanissaraka* and *Vatanulomak* property it detached stagnant *kapha* from the system and provides *Anuloma Gati* to *Vayu* thereby relieves the spasm and inflammation of tracheobronchial tree. Hence, *Trivrutta Leha Yoga* seems to be more suitable for *Virechana Karma* in *Tamaka Shvasa*.

CONCLUSION

The result suggested that *Trivrutta Leha Yoga* is safe, efficacious and best purgative formulation for bronchial asthma due to its *Samshodhana*, *Bhedaka*, *Kaphanissaraka* and *Vatanulomaka* properties. Its clinical efficacy on bronchial asthma also suggested that *Trivrutta Leha Yoga* is extremely potent formulation to achieve *Madhyam* to *Uttama Shuddhi* and *Kaphant Vega* without any side effect, which relieves the symptoms of the disease immediately and it also provides prevention by reducing frequency and severity of symptoms of *Tamaka Shvasa* for longer duration. Hence, it is proved that *Trivrutta Leha Yoga* is best purgative disease specific formulation for bronchial asthma and best alternative to routine *Virechana Yogas*.

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