MANAGEMENT OF TAMAKASHVSA (BRONCHIAL ASTHMA)  
WITH PUSHKARAMOOLADI CHOORNA 

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ABSTRACT: Pushkaramooladi choorna was tried clinically in Tamaka shvasa (Bronchial asthma) for a period of 45 days in consecutive 3 followups. The clinical, laboratory and pulmonary function tests carried out show significant antiasthmatic effect.

INTRODUCTION

Tamaka shvasa which has been mentioned in Ayurvedic classics similarises with the Bronchial asthma. Bronchial asthma, one of the most important ailments pertaining to the respiratory disorders. Since the last two decades the prevalence rate increased to 50% due to the pollutant allergants and changing environmental conditions. Charka has given a three drug sati, pushkara, Amalaki combination in Shvasa chikitsa (Cha. Chi 17/129). These three drugs can act at three levels of pathogenesis, sati acts as an antiinflam-matory, pushkara as a bronchodilator and amalaki as an immunomodulator as well as antiviral. This combination had been chosen for trial.

MATERIALS AND METHODS

Twenty five patients having bronchial asthma were randomly selected from the O.P.D. and I.P.D. of S.S. Hospital, Banaras Hindu University. The patients were diagnosed on the basis of detailed questionnaire along the symptoms given below, taken as subjective:

- Symptoms of breathlessness, duration with exertion or at least nocturnal or early morning, frequency, seasonal variation.
- Wheezing or whistling of chest any time.
- Paroxysmal cough or nocturnal paroxysmal cough with or without expectoration, colour, consistency.
- Tightness, heaviness or pain in the chest.
- Whether aggregation relation to exposure of dust, smoke, fumes and allergens.
- Any associated symptos of sinusitis, rhinitis.
- Family history of atopy/ allergic tendency.

Objective Criteria for Diagnosis

Pulmonary function test: Spirometric test had been done with the Electronic microplous spirometer of micromedical
Ltd., Rochester, Kent, England, FEV1, FVC, FVR and PEFR were recorded. Average of three readings had been taken. FEV1 in percentage was calculated form predicted values mentioned in spirometric calculator based on patients sex, age, height and weight. FVC and PEFR were also calculated. The pulmonary impairment was assessed by criteria based on the recommendation of the American thoracic society.

### Table -1

| Test | Normal | Mild | Moderate | Severe |
|------|--------|------|----------|--------|
| FEV1 | >80%   | 61-80| 50-60    | < 50%  |
| FVC  | >80%   | 61-80| 50-60    | < 50%  |
| PERF | >80%   | 61-80| 50-60    | < 50%  |

Laboratory investigations:

*Blood examination:* TLC, DLC, AEC (Absolute Eosinophil Count).

*Sputum:* for AFB and culture.

*ECG:* to exclude cardiac disease.

### Preparation of drug and mode of administration

The equal part of rhizomes of Sati (*H.spicatum*, Rose.), the roots of Pushkara (*Innula racemosa*, Linn) and fruits of Amalaki (*Emblica officinalis*, Linn). After removing the seeds were fine powdered. Nine grams of the power has been given in 3 divided doses with honey. The effect of the drug was assessed fortnightly for a period of 6 weeks. In acute exacerbation the patient was advised to take the medication to relieve the asthmatic attack and asked them to note the kind of medicine used, the quantity and number of times.

### Parameters for assessment of the response of the trial/ drug

A) Subjective parameters

i) Dyspnoea: Dyspnoea has been classified in following grades according to NYMA criteria.

Grade 1: Dyspnoea on more than accustomed work.

Grade 2: Dyspnoea on accustomed work.

Grade 3: Dyspnoea while doing less than accustomed work.

Grade 4: Dyspnoea on rest

ii) Cough:

Grade 0: No cough

Grade 1: Frequency two times in 24 hrs without exhaustion.
Grade 2: Frequency 3-6 times in 24 hrs with or without exhaustion.

Grade 3: Frequency more than 6 times in 24 hrs with exhaustion.

iii) Wheezing:

Grade 0: No wheezing
Grade 1: One or two times in a day
Grade 2: During night time
Grade 3: Throughout the day

iv) Days of asthma per week (DA), frequency of asthmatic attack per week (FA), Severity of asthmatic attack (SA) were also assessed.

B) Objective parameters

i) Forced expiratory volume in one second (FEV1)

ii) Forced vital capacity (FVC)

iii) Peak expiratory flow rate (PEFR)

iv) Respiratory rate (RR)
RESULT

Table -2
Response of pushkaramooladi choorna in clinical and objective parameters.

| Clinical objective criteria | B.T. M.G.S.± S.D | AT1 M.G.S.± S.D(t) | AT2 M.G.S.± S.D(t) | AT3 M.G.S.± S.D(t) |
|-----------------------------|------------------|-------------------|-------------------|-------------------|
| Dyspnoea                    | 2.72 ±0.73       | 2.48±0.82(<0.05)  | 2.32 ±0.852(<0.001) | 2.00 ± 0.91(<0.001) |
| Cough                       | 2.4 ±0.70        | 2.12 ± 0.72(<0.05)| 2.04 ±0.8(<0.01)   | 1.92 ± 0.90(<0.01)  |
| Wheezing                    | 2.44 ±0.88       | 2.12 ± 0.88 (<0.01)| 2.00 ±0.91(<0.001) | 1.64 ± 1.25(<0.001) |
| D.A                         | 4.56 ±1.93       | 4.24 ± 1.96(<0.05)| 4.20 ±1.75(<0.02)  | 4.16 ± 1.92(<0.01)  |
| F.A                         | 2.96± 0.98       | 2.68 ± 1.44(<0.05)| 2.64 ±1.07(<0.01)  | 2.2 ±1.32(<0.01)    |
| S.A                         | 3.52 ±1.22       | 3.8 ± 1.47 (<0.02)| 3.92 ±1.49(<0.001) | 3.36 ± 1.56(<0.001) |
| R.R                         | 34.28±8.0        | 32.84 ± 8.64(<0.02)| 32.26 ±8.43(<0.001)| 31.44 ± 8.25(<0.001)|
| FEV                         | 62.6± 15.06      | 62.81 ± 15.3(<0.05)| 63.06±15.78 (<0.05)| 63.45 ± 15.9(<0.01) |
| FVC                         | 2.03 ±0.53       | 2.16 ± 0.37(<0.05)| 2.28 ±0.42 (<0.02) | 2.81 ± 0.33(<0.01)  |
| FEFR                        | 189.04 ±44.05    | 199.16 ± 42.25 (<0.02)| 196.48±43.08 (0.001)| 199.6 ± 41.58(<0.001)|

BT: Before Treatment AT: After Treatment
DISCUSSION

The results of the clinical study confirm the anti-asthmatic activity of the compound drug pushkara, Sati and amalaki. There was significant decrease in the mean grade score of dyspnoea after 2 wks, 4wks and 6 wks of treatment. Cough, wheezing, days of asthka per week, frequency of attacks per week, severity of attack and respiratory rate shows significant effect after 2 wks of treatment, FEV1 and FVC results not showing significant after two weeks of treatment but it was significant after 4 and 6 wks of treatment.

Now bronchial asthma is recognized as primarily an inflammatory disorder leading to bronchospasm and microvascular leakage. There is a great role of immuno system in the pathogenesis of asthma. The three drug combination can act at three levels of pathogenesis, ie. Anti-inflammatory, bronchodilator and immunomodulatory. Sati acts as an anti-inflammatory, pushkara acts as a bronchodilator and Amalaki as an immunomodulator.

Since it was a random study, it needs a specific sampling study of every type of asthma, i.e., episodic, chronic intermittent and chronic persistant asthma. However, it needs biochemical, immunological and experimental study to establish the mode of action of this compound preparation “Pushkaramooladi choorna”.

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