



CASE REPORT

Ayurvedic management of Chronic Obstructive Pulmonary Disease using the treatment principles of *tamaka swasa* - A case report

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Abstract

Chronic respiratory diseases like Chronic Obstructive Pulmonary Disease can significantly lower a person's quality of life by limiting their ability to engage in daily activities such as work and leisure. In this era of increasing pollution and changing living habits this disease is being diagnosed in huge numbers. COPD patients are on lifelong medications and they are having very low quality of life. Even though the current available conventional management is commendable, there are certain limitations including side effects. *Āyurveda* offers more advantages, like improved quality of life with no known negative effects. *Kāsa* and *śvāsa*, the diseases caused by vitiation of *prānavaha srotas* include detailed descriptions of symptoms comparable to those of COPD and how to manage it. This case study aims to investigate if an *Ayurvedic* treatment plan can effectively lessen the symptoms of chronic obstructive pulmonary disease. An ex-smoker, 57-year male patient with Cough, Sputum Production and Difficulty in breathing was treated by protocol comprising of *Deepana-pachana with panchakola churna*, *Snehapana with kantakari ghrita*, *Sodhana with vidangatanduladi churna* and *Pippali Vardhamana Rasayana* and marked improvement was perceived.

Introduction

Chronic Obstructive Pulmonary Disease (COPD) is a common, mendable lung ailment characterised by respiratory discomfort and airflow restriction brought on by anomalies in the airways and/or alveoli.^[1] The two main causes of COPD are smoking tobacco and indoor / outdoor air pollution. Breathing difficulty, cough and sputum production are the main symptoms.

In *Ayurvedic* view, *Prānavaha srotas* is affected in this disease. The etiological reasons and clinical symptoms of *prānavaha srotoduṣṭi*, which is generally associated with advanced stages of *kāsa* or *tamaka śvāsa*, are almost identical to those of COPD. The etiological factors causes the *kapha doṣa* to aggravate and vitiate which obstructs the *prānavaha srotas*. The *prāna* and *udāna vāta* situated in the channels get obstructed and produce the symptoms.^[2] *Chikitsa* comprises of procedures and drugs that are *Kaphavatahara*, *ushna* and *vatanulomana*. In this chronic condition, a protocol including *sodhana* and *rasāyana* will be beneficial in handling the symptoms and refining the quality of life.

Presenting complaints

A 57-year male patient consulted with breathing difficulty and cough with expectoration of whitish colored sputum continuous for more than 15 years.

History of presenting illness

Patient was apparently normal 15 years back. He was a manual laborer by occupation and had heavy dust exposure as part of his job. He was a chain smoker with a habit of smoking more than 20 beedi /day. He gradually developed cough with expectoration and later progressed to breathing difficulty over a period of 5 years. The complaints got triggered by cold climate, dust exposure etc. but persisted throughout the year. During exacerbation he consulted allopathic physician and on taking bronchodilators temporary improvement was noticed. Now for the past 2-3 years the symptoms got aggravated and he was not able to go for job or to do his routine activities. So he got admitted in our hospital.

Table 1: Timeline of the case

Date	Relevant medical history and examination
2008	Cough started with expectoration of white sputum esp. during morning hours
2013	Cough progressed and was associated with breathing difficulty as dyspnoea on exertion, which got triggered by cold and dust Diagnosed as COPD and started using inhalers and corticosteroids
2015	Started medication for Diabetes , HTN, Dyslipidaemia
2020	Cough and dyspnoea aggravated, recurrent exacerbations
2022	Got admitted for <i>Ayurvedic</i> management

Addictions - Chain smoker with smoking index of 700. Smoked around 20 beedi/day for about 35 years and quit the same 1 year back.

Past illness- Diabetes, hypertension for which he was on medication since 8 years

Family History - Nothing relevant

Psychosocial status - Good with pleasant face and mingling nature

Personal History

Bowel - once per day, hard stools

Appetite - Irregular, associated with abdominal distension,
Diet - Mixed

Micturition - 5-6/day, 3-4/night

Sleep - disturbed, dyspnea on lying down and early morning hours with expectoration

Allergy - cold, dust

General Examination - Vitals were within normal limits. No Pallor, Icterus, Cyanosis, Clubbing, Lymphadenopathy or Edema

On symptomatic assessment, Patient is having **Cough with Grade 3, Expectoration- Grade 3 and Dyspnoea- Grade 4** before the treatment. **Clinical symptoms were assessed using the Grading** which is as follows-

Table 2: Grading of Cough

Grade 0	No cough
Grade 1	Twice in 24 hours without exhaustion
Grade 2	3 to 4 times in 24 hours without exhaustion
Grade 3	Cough continuously and disturbs day to day activities

Table 3: Grading of Expectoration

Grade 0	Absent
Grade 1	5 to 10 ml thin
Grade 2	10 to 20 ml thin
Grade 3	25 to 50 ml thick
Grade 4	50 to 100 ml thick tenacious

Grading of breathlessness was carried out using **Modified Medical Research Council Dyspnoea Scale.**^[3]

Table 4: Respiratory System Examination

INSPECTION	PALPATION	PERCUSSION	AUSCULTATION
Shape - Bilaterally symmetrical	Trachea - centrally placed	Hyper resonant note over lower lung fields	Broncho vesicular breath sounds over lung areas
Respires by using Sternocleidomastoid muscle	No tenderness	Cardiac dullness noted normal	Vocal resonance is bilaterally symmetrical.
Respiratory rate - 18/mt	Chest expansion - 4 cm	Hepatic dullness pushed down	Expiration phase prolonged
Rhythm - regular	Apex beat - normal		Rhonchi heard over anterior upper lobes
Type of breathing - Abdomino thoracic	Tactile Vocal Fremitus - Dull		
No scars/ veins/ discoloration	Intercostal recession/ indrawing of ribs present		

Gastrointestinal system - GERD present. All other systemic examinations were normal.

Table 5: *Ayurvedic* examination

<i>Prakruti</i>	<i>Kapha Vata</i>
<i>Vikruti</i>	<i>Prana Vata and Avalambaka Kapha</i>

Table 6: Samprapthi Ghatakas

Agni	Vishamagni
Srothas	<i>Pranavaha Srothas</i> - Atisrishta swasa, Atibadha swasa, Kupitha swasa, Alpalpa swasa, Abheekshnam, Sasabdha swasa <i>Annavaha srothas</i> - Avipaka, Anannabhilasha <i>Rasavaha srothas</i> - Aruchi, tandra, Agninas <i>Pureeshavaha srothas</i> - Gradhitha varchas
Srothodushti	Sanga, Vimargagamana
Adhishtana	Amasaya
Sthanasamsraya	Phuphusa, Uras
Rogamarga	Abhyanthara
Sadhyasadyata	Yapya

Table 7: Management from 13-12 -2022 to 19-01-2023

Sl no.	Treatment with date	Drug	Dose, Time of administration and Anupana	Duration	Rationale	Observations
1	13-12-22 to 17-12-2022	<i>Panchakola churṇa</i> [4]	10 gm. (5gm twice daily with warm water) half hour before food.	5 days	<i>Ama pachana Agni deepana</i>	Appetite improved
2	18-12-22 to 24-12-2022	<i>Kantakari ghrita</i> [5]	<i>Arohana maatra as per Agni and Koṣṭha</i> (starting dose 30ml) - 6 am	7 days	<i>Vatakaphaja kasa hara utklesa</i>	Bowel consistency became normal
3	25-12-22 to 27-12-2022	<i>Tila taila</i> [6]		20 mts-3 days	Brings <i>doshas</i> to <i>koshta</i>	Symptoms reduced
4	28-12-2022	<i>Vidangatanduladi churna</i> [7]	30 g with warm water at 8 am	1 day	<i>Kaphapitta hara</i>	8 vegas - <i>avara suddhi</i> Improvement in the spirometry values.
5				3 days	Recovers <i>agni</i>	Appetite and bowel got corrected
6	01-12- 22 to 19-01- 2023	<i>Pippali vardhamana</i> [8]	<i>Pippali churna</i> 1 st day - 6 <i>pippali</i> (1.22 gm) and 6 <i>pippali</i> increased daily. 10 th day - 60 <i>pippali</i> (12.2 gm). Then reduce in the same way (600 <i>pippali</i> in 19 days) - 8.00 am at the time of breakfast with milk Diet - <i>Ksheeranna</i>	19 days	<i>Vata-kapha</i> pacifying, <i>Srotosadhana</i> and <i>Kapha nissarana</i>	Symptoms reduced, lung function and quality of life improved. Assessment details are given below.

Outcome Assessment - Symptoms were assessed using the grading mentioned above, lung function by **Spirometry**, Quality of life using **CAT questionnaire** [9] and prognosis by **BODE Index**. [10]

Results

Table 8: Clinical Assessment

Symptoms	BT* (Day 0)	AS* (Day 15)	AR* (Day 45)	Follow up (Day 60)
Cough	3	2	0	0
Expectoration	3	2	0	0
Shortness of breath	4	3	2	2

*BT- Before Treatment, AS-After *Sadhana*, AR- After *Rasāyana*

Table 9: PFT Assessment

Parameters	BT	AR
FEV1/FVC	0.53	0.65
FEV1(in %)	23%	29%
FVC	1.19	1.24

Table 10: CAT Questionnaire Assessment

Score	BT	AS	AR	Follow up
	30	18	9	9

Table .11: BODE Index Assessment

Components	BT	AR
Body Mass Index (BMI)	26.5	26.2
Obstruction (FEV1%)	53	59
Dyspnoea (mMRC)	4	2
Exercise test (6 mt walking)	250 mtrs	300 mtrs
Total score	7	5

Table. 12: lab investigations Assessment

Investigations	BT (12/12/2022)	AT (17/01/2023)
Hb	12.7 mg%	13.2 mg%
TC	17700 c/mm³	11700 c/mm³
DC	N -66%, L - 20%, E - 8%, M- 6%, B-0 %	N -61%, L - 21%, E - 5 %, M- 4%, B-0 %
ESR	70 mm/hr	28 mm/hr
AEC	1989 mm	1416 mm
Total IgE	1600 IU/mL	832 IU/mL

Discussion

Marked improvement in symptoms was perceived in the subject after the management protocol comprising of *Deepana-pachana, Snehapana, Sodhana* and *Pippali Vardhamana Rasayana*. Drugs used were having *ushna, katu, tikshna, chedana* and *kaphavatahara* properties which might have expelled out the aggravated *Kapha dosha*, thereby cleaning the *srotas*. The integration of *sodhana* and *rasayana* may have resulted in a decrease in airway inflammation, the removal of mucus and *ama*, which relieved the obstruction, increased the airflow, and an improvement in lung volume and capacity. *Pippali's deepana-pachana* property might have assisted in raising the *prānavaha srotas'* functional values by rectifying the *agni*. COPD Assessment Test comprises of questions addressing their symptoms, sleep and activity. The significant reduction in the symptoms had improved the sleep and made more confident by enhancing the energy.

Agni mandhya (less digestive fire) is the key factor which causes the formation of *Ama* and *kapha* in the pathology thereby creating *srotho rodha* and *vata* to move in upward direction (*pratiloma gati*) which manifests as *svasa*. Symptoms is due to *Avarana of Kapha to Pranavayu*. *Rasa Dhatu is the major Dushya* involved. "*Pippali Rasayana*" is proved much effective in the management of respiratory diseases. *Rasayana* therapy itself is having immuno modulatory, cytoprotective and adaptogenic action and here the drug *Pippali* which is *Katu rasa, Madhura vipaka, Laghu, Tikshna guna* and *Anusna virya*, worked as prophylactic as well as preventive medicine to reduce the symptoms by interfering the pathogenesis and improved the quality of life of the patient.

Conclusion

Effective and prompt management is essential for a condition like COPD in order to prevent its advancement to a devastating stage. *Ayurvedic* formulations and therapies might be considered a significant advancement in the treatment of this degenerative disease. Throughout the trial, there were no adverse medication effects observed.

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