



## A CLINICAL EVALUATION OF KAPHAJA KASA (CHRONIC OR RECURRENT MUCOPURULENT BRONCHITIS) - A CASE STUDY

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**ABSTRACT:** *Kasa* (cough) is a one among the foremost common *Pranavaha strotodushti vikara* (disorder of Respiratory System) ascertained clinically that makes the patient to consult a physician. *Kaphaja Kasa* (chronic or recurrent mucopurulent bronchitis) is a type of *Kasa* dominated by *kapha* and *vata dusti*. *Kaphaja Kasa* are often best compared with chronic bronchitis. Chronic bronchitis is a pathological condition characterized by the chronic cough and excessive mucus within the tracheo bronchial tree. Dust, house smoke, smoking, environmental pollution, chemical irritants and vapors, unaccustomed activity and surroundings are major causes of bronchitis.

In present case a 50 year old female patient came with the complaints of cough with expectoration and stickiness in mouth since 3 years. She had taken medications (mucolytics, expectorants and cough suppressants etc) which were failing to live over symptoms. The condition got worsened day by day with aggravation of symptoms. The medications like Shwasa kutharrasa, Laxmivilasrasa, Bharangyadi kashaya and Kantakari ghrita were found to be beneficial to overcome patient's condition. Here an endeavor is formed to review causes, pathological process and treatment of *Kaphaja Kasa* w.s.r. to chronic bronchitis.

**KEYWORDS:** *Kaphaja Kasa*, *Pranavaha srotodusti vikara*, *Chronic bronchitis*.

### I. INTRODUCTION:

*Kasa*(cough) can develop as a *Swatantra vyadhi* (independent disease) or may be a *lakshana* (symptom) associated with other disease. Sometimes it may develop as a *Upadrava* (complication) of other disease. Symptoms can be even classified as *sarvadaihika lakshana* and *urdvajatrugata lakshana*(ear,nose and throat related symptom).<sup>1</sup> It is often seen as a outstanding feature of *Pranavaha strotodushti vikara*<sup>2</sup>(disorder of respiratory system) that hinders the traditional life vogue as a result of the defective etiology. Understanding and differentiating the *Kasa* is most vital to treat the condition effectively. Several Ayurvedic contexts explains regarding the *nidana*(etiological factors), *samprapti*(pathogenesis) and treatment of *Kaphaja Kasa*(chronic or recurrent mucopurulent bronchitis) thoroughly.

According to estimates from national interviews taken by the national center for health statistics 9.5 million or 4% of the population were diagnosed with chronic bronchitis. In one study acute respiratory disorder affected 44 of 1000 adults annually.<sup>1</sup> *Nidana parivarjana* (eradication of actuating factors), *shamanoushadhi*(curative/palliative medicine) and *shodhana*(purification/cleaning medicine), these totally different modes of treatments have shown clinical effectuality in several institutional clinical trials. In up to date medical system mucolytics, expectorants and antibiotics are the selection of treatment in chronic bronchitis. If unwellness that is cough if chronic, patient must have used these medicines(mucolytics etc) for long period, these modification from time to time has created resistance to those medications. Although it's not life threatening, however on triggering factors might cause acute exacerbation of symptoms and requires immediate intervention. In present case, Shwasa kutharrasa, Laxmivilas rasa, Bharangyadi kashaya, Kantakari ghrita and mixture of Haridrakhandha, Talisadi churna, Godanti bhasma, Trivrit churna were found to be beneficial in overcoming the symptoms of *Kaphaja Kasa*(chronic or recurrent mucopurulent bronchitis). Detailed discussion on medications and relief found in patient has been described below.

### II. CASE REPORT:

A previously healthy 50 year old female patient came with the complaints of cough with expectoration along with stickiness in mouth and anorexia. More quantity of whitish sputum was found in expectorant

associated with loss of appetite. She was treated symptomatically and with antibiotics by a local practitioner but it failed to respond. Her symptoms were temporarily subsided but recurrence of symptoms were present. She was otherwise healthy with no current medications or recent hospitalizations. On physical examination her vital signs included a blood pressure of 110/70 mmHg, a heart rate of 76 beats per minute and respiration rate 20 per minute. Her temperature was 96.7 °F . Oxygen(O<sub>2</sub>) saturation was 97% on room air. She was alert and appropriate with no signs of any emergency. Her prakṛiti(body constitution) was pitta-kaphaja. Her agni bala(digestive power) was avara (poor) and sharir bala (physical strength) was madhyam (moderate).

### **Respiratory System examination**

Inspection: Bilaterally symmetrical shape of chest with no scar mark or bulging.

Palpation: Trachea centrally placed, no tenderness was found, vocal fremitus - Diminished

Percussion: Resonance present

Auscultation: Wheezing Present on right lung lower lobe ,

AP(Antero posterior) diameter = 18cm,

TR(Transverse)diameter=30cm,

chest expansion- 3cm.

**Specific etiological factor** (occupation related or life style related): excessive chullah(clay stove) exposure, excessive contact of dust, dusty atmosphere, house smoke was found in detailed personal history.

The laboratory studies showed the following: Haemoglobin 9.5 g/dl, leukocytes 10000/cumm, Neutrophils 68%, lymphocytes 28%, Eosinophils 2%, Monocytes 2%, RBC 3.98 millions/cmm, ESR 15 mm/1hr and AEC- 178/ cmm

The urine analysis was normal and Sputum for AFB was negative.

### **Radiological Findings:**

Both lung field show increased broncho-vascular markings.

No evidence of collapse, consolidation, mediastinal lymph adenopathy, soft tissue infiltration or pleural effusion is seen. Both hilar shadow and C.P. angle are normal.

Heart shadow appears normal in size. Aorta appears normal. Bony thorax and both domes of diaphragm appear normal.

**Treatment:** Considering the history, clinical examination and investigations, following treatment was given.



### III. DISCUSSION:

#### Internal treatment oral:

**Shwasa Kuthar Rasa** - 250 mg Twice a day after meal (3Weeks)

❖ Shwasa Kuthar Rasa is a herbomineral Ayurvedic formulation useful in treating respiratory disorders.

❖ The formulation of this medicine contains purified *Aconitum ferox* (Aconite), *Piper longum* (long pepper), *Piper nigrum* (black pepper), and *Zingiber officinale* (ginger), and minerals that is, parada (mercury), gandhaka (sulfur), tankana (borax), and manahsila (arsenic disulfide) in purified form as per Ayurvedic text.

*Vatsanabh* that is *Aconitum ferox* inhibited the biosynthesis of leukotriene B<sub>4</sub> in bovine polymorphonuclear leukocytes.<sup>3</sup> It has a mucolytic effect so it helps to clear mucus from lungs. It has Swedal, Mutral, Jvarghna, Ushna veerya properties.<sup>4</sup> *Piper longum* have a traditional claims of Ayurveda for antiallergic and antiasthmatic activity.<sup>5</sup> It is indicated in *Kasahar gana*.<sup>6</sup> Its mullouscidal effects makes desiccation of excess of mucus.<sup>7</sup>

❖ *Zinziber officinale* are capable of inhibiting allergic reactions and is useful for the treatment and prevention of allergic diseases.<sup>8</sup> It has a antitussive activity without addiction. Review of literature revealed that Shwas Kuthar Rasa, apart from treating asthma and allergy, is used for the cure of cough, laryngitis, tuberculosis, unconsciousness, mental disorders, comma, chest burn, and heart diseases.<sup>9</sup>

❖ **Laxmivilas Rasa** - 500mg twice a day after meal (4Weeks)

*Laxmivilas Rasa* is one of such herbomineral combination indicated in *Kasa* (cough), *Rajyakshma* (tuberculosis), *Kustha* (diseases of skin), *Prameha* (urinary disorders), *Nadivrana* (sinus), *Arsha* (piles), *Bhagandara* (fistulka in-ano) *Shlipada* (filariasis), *Atisara* (diarrhea), *Amavata* (rheumatism), *Udararog* (diseases of abdomen), *Sthoulya* (obesity) , *Sula* (pain) , *Shirorog* (diseases of head) and *Strirog* (gynecological disorders). This formulation mainly widely used in treating of diseases of especially of upper respiratory tract, abdominal condition and major systemic disorders such as anaemia, hepatitis etc.<sup>10</sup>

❖ *Laxmivilas Rasa* is *Kapha Vatahara* and was selected for its *brumahana* action. Although its ingredients such as *Parad*(mercury), *Hartal*(orpiment), *karpur*(zinc), *vang*(Tin), *Tamra*(copper), *Abhrak*(mica), *Kantaloha*(iron), *Kansya*(bronze), *Gandhak*(sulfur), *Ela*(cardamom), *Jaiphala*(nutmeg)(*Kaphanihsaraka*)<sup>11</sup>, *Tejpatra*(cinnamum), *lavang*(cloves), *Yavani*(carom

seeds)(jivanunashaka, kriminasak, sleshmahara, jvarahara)<sup>12</sup>, Jeerak(cumin)(kaphavatashamak-208)<sup>13</sup>, Trikatu, Triphala, Tagar(indian valerian), Bhrunjaraj(false daisy), Vansalochana(Bamboo)<sup>14</sup>(kaphanihsarak, sleshmahara and balya properties)<sup>15</sup>

❖ Parad(mercury) along with gandhak(sulfur) in the form of kajjali(mixture of parad and gandhaka) and rasasindoor is used to boost immune system, to improve strength, in cardiac diseases, colicky abdominal pain, urinary tract related diseases, fistula in ano, inflammatory conditions, tuberculosis, chronic respiratory conditions, asthma, anemia, obesity, non healing wounds, and digestive problems.<sup>16</sup> And also if we go through the content of the kalpa and its action it mainly works on rasavaha and pranavaha srotas vyadhi.<sup>17</sup>

❖ **Bharangyadi kashayam**- 60ml twice a day before meal (2Weeks)

Bharangi possess tikta(bitter)kashaya(astringent) rasa, ushna veerya(hot potency) and deepan pachana karma. It is vata kaphahara. One of the syonym for Bharangi is kasajit which means one which has the victory over kasa.

❖ Bharangi possess anti-inflammatory and expectorant action. Aqueous extract of leaves of Bharangi have Bronchodilatory action.

❖ Bharangyadi Kwath is a unique preparation explained in Vishamjwara chaper of Yogratanakar which contains Bharangi (Clerodendrum serratum)(kasahara)<sup>18</sup>, Mustak (Cyperus rotundus)(kaphaghna)<sup>19</sup>, Pittapapada (Fumaria officinalis), Dhamaasa (Fagonia arabica), Sunthi (Zingiber officinale), Chirayata (Swertia chirata), Kustha (Saussurea lappa)(kasaghna)<sup>20</sup>, Pippali (Piper longum)(Kasahar gana- bronchial sedatives)<sup>21</sup>, Brihati (Solanum indicum) and Guduchi (Tinospora cordifolia) in equal quantity.<sup>22</sup>

❖ This decoction is found to be useful in treating Vishamjwara, as the active principles is found to have Vata-kapha shamak, Deepan, Pachan, Amapachan, Jwarangna, Trishnahar, Krimighna, Rasayan, anti-pyretic, anti-bacterial, anti-emetic, digestive, hepato-protective and laxative properties.

**Kantakari ghrta** – 1tsf twice a day before meal (1Week)

❖ Kantakari(solanum xanthocarpum) is indicated in Kasahara mahakashaya<sup>23</sup> and it is widely used to treat respiratory diseases in Ayurveda. It has katu(spicy), tikta(bitter) and ushna veerya(hot potency) properties. It has chhedana, shoshana, deepan properties. It act as vata kapha hara. It is also called as kasaghni[one which destroy kasa(cough)].

❖ Kantakari is considered as agraya dravya for kasa.

❖ According to Bhaiyshajya Ratnavali Kantakari ghrta Ghrta is indicated in Pancha kasa.<sup>24</sup>

❖ Ayurvedic classics categorized this plant under Kasahara, Sotha hara, Hikka nigravana, Kanthya, Anga marda prasamana, Sheetaprasamana dasemaanis (Group of ten drugs).<sup>25</sup>

❖ Kantakari is widely used in treating various types of jwara (fever), tamaka swasa (bronchial asthma), kasa (cough) and hikka (hiccough).

❖ Seeds of kantakari act as expectorant in cough and asthma; roots are used as expectorant and diuretic and useful in the treatment of catarrhal fever, coughs, asthma and chest pain.<sup>26</sup>

❖ Salosodine present in solanum xanthocarpum have bronchodilator action.

**Mixture of Haridrakhanda churna 30gm**

**Talisadi churna 15gm**

**Godanti bhasma 05gm**

**Trivrit churna 20gm**

**1/2 tsf with honey TID after meal (4Weeks)**

❖ In the present study main formulation for controlling the allergic condition, which acts on immunity is Haridrakhanda.<sup>27</sup>

❖ Haridrakhanda had been selected as oral drug because it has been used not only as Rogahara agents but also as vyadhi kshamatvakara.

❖ The drugs mentioned in Haridra khanda are Haridra , Triphala, Trikatu, Trijata, Vidanga, Goghrita, Sita etc. Significant result was obtained in Coughing and Absolute eosinophil count.<sup>28</sup>

❖ Talisadi churna is an excellent receipe for the stimulation of the power of digestion. In Bhaisajya Ratnavali stated that it also help in the downward movement of immobile vayu(mudha vata).

❖ Trivrit churna is tikta(bitter), katu(spicy), madhur(sweet) rasa with ushna veerya(hot potency) is intentionally used for its sukhavirechana(easy purgation), shothhara(anti inflammatory), lekshana(scrapping), bhedana(cutting) properties. So excess of kleda is removed by such kind of properties.

❖ Godanti Bhasma is a mineral based medicine prepared from Gypsum. It has anti-inflammatory and analgesic properties. The main action of Godanti Bhasma is on Brain, blood vessels and lungs.

**Chikitsa-** In treatment of *Kaphaja Kasa*(chronic or recurrent mucopurulent bronchitis). There was a need of different mode of approaches at different stages. Most of time multi treatment protocol has to be adopted. *Nidana Parivarjana*(eradication of causative factors) it is most important aspect of treatment. Person with *Kaphaja Kasa* has to avoid triggering factors like smoking, dust inhalation etc. some time person has to make some modification in his occupations to avoid these *nidana* like mask wearing; avoiding air conditioned environment etc. patient should be more conscious during cold/winter seasons and during travel to cold atmosphere.

**Samshamana** There are many single drugs, Kastoushadhi and Rashoushadis which are indicated for *Kaphaja Kasa*(chronic or recurrent mucopurulent bronchitis). Here swaskuthar rasa, laxmivilas rasa, haridrakhanda and kantakari ghrita were found beneficial in *Kaphaja Kasa* through its Katu, Ushna, Tikshna, Sukshma, Chedana, Kaphanissaraka, Kasagna Guna. Though increased broncho vascular markings are not fully reversible but presence of symptomatic relief was evident in patient.

**Shodhana-** If Bahudoshha and Amashayagata *Kaphaja Lakshana* are noticed Sadhyovamana can be adopted rather than classical Vamana. Kavalagrha, Dhumapana(smoke therapy) are also helpful in condition of *Kaphajakasa*(chronic or recurrent mucopurulent bronchitis).After the Vamana Tikshana Dhumapana will helpful in *Kaphajakasa*.

<b>Kasa(Cough)</b>	<b>Grade</b>	<b>(B)Nishthivana</b>	<b>Grade</b>
Absent	0	No Nishthivana during Kasa	1
Cough with expectoration with slight difficulty.	1	Tanu Svachchha nirgandha	2
Cough with pain difficulty in expectoration, Patient can tolerable.	2	Bahala pittaabha durgandhi	3
Freq. coughing with more difficulty in expectoration, Patient can't tolerate.	3	Sarakta	4
		Ref- WHO - DFC sponsored Project on DEVELOPING GUIDELINES FOR CLINICAL RESEARCH METHODOLOGY IN AYURVEDA by Prof. MS Baghel (Director, IPGT&RA) Principal Investigator	
<b>(H)Mandagni</b>	<b>Grade</b>		
No Mandagni	0		
Present food digested in 4-6 hours	1		
Present food digested in 8 hours	2		
Present food digested in 12 hours	3		

<b>Treatment taken</b>	<b>(1)Before treatment</b>	<b>(1.a) Grade</b>	<b>(2)After treatment</b>	<b>(2.a) Grade</b>
<b>Kantakari ghrita</b> - 1tsf twice a day before meal (1Week)	Cough	2	Cough sometimes	0
<b>Bharangyadi kashayam-</b> 60ml twice a day before meal (2Weeks)	Expectoration	2	Very less slimy expectoration	1
<b>Shwasa Kuthar Rasa</b> - 250 mg Twice a day after meal (3Weeks)	Mandagni	1	Agni pradipti	0
<b>Laxmivilas Rasa</b> - 500mg twice a day after meal (4Weeks)	Stickiness in mouth		Absent	

<b>Mixture of</b> <b>Haridrakhanda churna 30gm</b> <b>Talisadi churna 15gm</b> <b>Godanti bhasma 05gm</b> <b>Trivrit churna 20gm</b>	$\frac{1}{2}$ <b>Tsf</b> <b>TID</b> after meal
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#### IV. CONCLUSION:

In classics there is a reference which shows if *Kasa*(cough) is present, definite *vikriti* of *kapha dosha* should be present which can be seen as *jihva saamta* (coating of tongue) symptom. *Jihva saamta*(coating of tongue) itself represents the diminution of *Agni*(digestive fire) and production of *saam kapha dosha*.

*Kaphaja Kasa*(chronic or recurrent mucopurulent bronchitis) is one of *Pranvaha Srothodusti Janita Vyadhi*(disorder of Respiratory System) where *Kasa vega*(urge of cough)is associated with *bahala ghana nishthivana* (more quantity of thick sputum). *Kaphaja Kasa* can be studied parallely with contemporary understanding of chronic bronchitis. The causes and symptomatology of both *Kaphaja Kasa* and chronic bronchitis mimics each other so these can be best correlated. *Nidana Parivarjana*, different *Shamnoushdhi*(curative medicines) and different modes of *Shodana*(purification) will also helpful in treating the *Kaphaja Kasa*. Majority of the contents of *Laxmivilas rasa* act as a *kaphanihsaraka*, *Shwaskuthar rasa*, *Kantakari ghrita*, *Bharangyadi kashayam* and mixture of mixture of *Haridrakhanda*, *Talisadi churna*, *Godanti bhasma*, *Trivrit churna* have the action of *Kasahara* and *sleshmahara*.

In the above said case patient came with the complaints of Cough of grade 2 that is Cough with pain and difficulty in expectoration, Patient can tolerate along with *Tanu Svachchha nirgandha nishthivana* which was also in a grade 2. With the above said treatment we found the significant reduction in the Cough from grade 2 to grade 0 and there was no or very slimy expectoration found. There was *mandagni* in grade 1 that was consumption of food digested in 4-6 hours and stickiness in mouth before the treatment but *pradipta agni* was found after the treatment and there was no stickiness in mouth present. Further, such cases can be studied in large population to assess the effectiveness of Ayurvedic treatment.

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