



A Case Study to Evaluate the Potential of *Nasya Karma* and Ayurvedic Formulations against Post Covid Chronic Bronchitis.

Raju Ninama¹, Archana Verma², Anil Nagle³, R K Pati⁴, Rajesh Meshram⁵

1. Post Graduate Scholar Department of Ras Shastra and Bhaishajya Kalpana Pt. Khushilal Sharma Govt. (Auto.) Ayurveda College and Institute, Bhopal, Madhya Pradesh, India
2. Post Graduate Scholar Department of Kayachikitsa Pt. Khushilal Sharma Govt. (Auto.) Ayurveda College and Institute, Bhopal, Madhya Pradesh, India
3. Associate Professor & HOD Department of Ras Shastra and Bhaishajya Kalpana Pt. Khushilal Sharma Govt. (Auto.) Ayurveda College and Institute, Bhopal, Madhya Pradesh, India
4. Reader Department of Ras shastra and Bhaishajya Kalpana Pt. Khushilal Sharma Govt. (Auto.) Ayurveda College and Institute, Bhopal, Madhya Pradesh, India
5. Reader and H.O.D. Ph.D. Department of Kayachikitsa Pt. Khushilal Sharma Govt. (Auto.) Ayurveda College and Institute, Bhopal, Madhya Pradesh, India

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Corresponding author-

Raju Ninama, Post Graduate Scholar
Department of Ras Shastra and Bhaishajya
Kalpana Pt. Khushilal Sharma Govt. (Auto.)
Ayurveda College and Institute, Bhopal,
Madhya Pradesh, India

[Email – rajuninama8825@gmail.com](mailto:rajuninama8825@gmail.com)

ABSTRACT:

Background- SARS-COV-2, β type corona virus affects nearly all world population after appearing in Wuhan in Nov. 2019. In Covid-19 related bronchitis there is an issue of excessive sputum production in the airways (*Kaphastheevan*), resulting in coughing (*Kasa*) and chest tightness. This recurrent cough and ongoing chest discomfort affect one's quality of life.

Aim & Objectives- Aim of this study is to create an Ayurvedic protocol (*Shodhan Chikitsa -Nasya* therapy and *Shaman Chikitsa – Chitrak Haritaki, Sitopaladi Churna, Tankan Bhasma, Swarnavasant Malti Rasa*) for treatment of post Covid-19 related chronic bronchitis.

Material & Methods- It is a case of 27yrs old female presented with complain of breathlessness, cough especially at night with expectoration. Assessment was done on the basis of symptoms, radiological findings (Chest X-ray PA View) and PFT (FVC & FEV₁).

Result- There was relief in Subjective Parameters such as Cough (*Kasa*), Dyspnoea (*Shwasakashtata*), Chest tightness (*Urashool*), Wheezing (*Ghurghurak*), Sputum and Sleep (*Nidra*). This Ayurvedic treatment yielded more improvement in the value of FEV_{1.0} (L), FVC (L), FEV_{1.0}/FVC (%) after treatment.

Discussion- *Shodhan (Anu Tail Nasya)* and *Shaman (Chitrak Haritaki, Sitopaladi Churna, Tankan Bhasma, Svarnvasant Malti Rasa)* Chikitsa have mainly *Vata-Kaphahara* action. This Case study of COVID-19 related Chronic Bronchitis is highly effective in subsiding the all symptoms of Post COVID Chronic Bronchitis and also improving the Pulmonary Function.

Key words– *Chitraka Haritaki Avaleha,, Sitopaladi Churna, Chronic bronchitis.*

INTRODUCTION

At the beginning of 2020, a new novel SARS-CoV-2 viral

disease with flu or influenza-like symptoms has introduced



a global pandemic causing a mammoth human loss. The epi-centre of the disease is believed to be the Wuhan province of China¹. The zoonotic transmission of the contagious disease quickly transformed its course into a human-to-human trans-mission, resulting in the rapid spread of the disease in a very short period.² On 30 th January 2020, the declaration of a public health emergency and temporary recommendations by the Director-General of the World Health Organization (WHO) emerged as a global concern on the pandemic issue.^{3,4} At the beginning of 2020, a new novel SARS-CoV-2 viral disease with flu or influenza-like symptoms has introduced a global pandemic causing a mammoth human loss. The epi- centre of the disease is believed to be the Wuhan province of China⁵. The zoonotic transmission of the contagious disease quickly transformed its course into a human-to-human trans- mission, resulting in the rapid spread of the disease in a very

At the beginning of 2020, a new novel SARS-CoV-2 viral disease with flu or influenza-like symptoms has introduced a global pandemic causing a mammoth human loss. The epicenter of the disease is believed to be the Wuhan province of China¹. The zoonotic transmission of the contagious disease quickly transformed its course into a human-to-human transmission, resulting in the rapid spread of the disease in a very short period². On 30th January 2020, the declaration of a public health emergency and temporary recommendations by the Director- General of the World Health Organization (WHO) emerged as a global concern on the pandemic issue³⁻⁴. As updated on 1st November 2021, total no. of infected people across the globe were over 24 crores & more than 50 lakhs (around 2.0%) of the total infected population succumbed to death. Of these 24 crores, 3.42 crores people were infected in India with 4.5 lakhs death reported⁵. Still, there is lack of effective medicine for COVID-19 infection. Covid-19 can cause lung complications such as pneumonia and in the more severe cases ARDS, COPD etc. Corona virus can also cause recurrent airway which may in turn converts into bronchitis enough severe to warrant hospitalization. In Covid-19 related bronchitis there is an issue of excessive sputum production in the airways (*Kaphastheevan*), resulting in coughing (*Kasa*) and chest tightness. The sputum also narrows the airway, making breathing more difficult (*Shwaskricchta*). In bronchitis, patients may experience fever (*Jwar*) along with increased cough (*Kasa*), that stays for months after the initial infection. This recurrent cough and ongoing chest discomfort affect one's

quality of life. Some compound herbal medicines are used in this treatment according to the *Ayurvedic* text *Charaka* and *Sushruta Samhita*. The active molecules of herbs (*Shodhan-Anu Tail Nasya* and *Shaman- Chitrak Haritaki, Sitopaladi Churna, Tankan Bhasma, Svarnavasant Malti Rasa Chikitsa*) used in the treatment of post covid-19 related bronchitis. This case study of Covid-19 related bronchitis will promote further research and helps to make an *Ayurvedic* treatment protocol.

AIM AND OBJECTIVES -

- 1) To study the effect of *Shodhan Chikitsa – Anu Tail Nasya* therapy and *Shaman Chikitsa – Chitrak Haritaki & Sitopaladi churna, Tankan Bhasma, Svarnavasant Malti Rasa* in the management of Post Covid Chronic Bronchitis.
- 2) To find out an effective *Ayurvedic* Treatment Protocol for Post Covid Bronchitis.

MATERIAL AND METHOD -

Selection and Source of patient for this clinical study, patient of Post Covid Bronchitis was registered from OPD of *Kayachikitsa* department (OPD No. – 20230016838) of Pt. Khushilal Sharma Govt. (Auto.) Ayurveda Hospital Bhopal (M.P.).

Case Presentation –

Present Medical History –

A 27year old female patient by profession PG Scholar reported to the *Kayachikitsa* Out Patient Department at Pt. K.L.S. Govt. Ayurveda Hospital Bhopal (MP) with chief complaints of recurrent nocturnal productive coughing cough with disturbed sleep and dyspnea for atleast 3 times in a year. She was under modern medications Since 1 month. But, patient was not responding to it, and her condition got worsen and then she was consulted to Pt. K.L.S. Govt. hospital. She had no history of cardiac diseases, diabetic mellitus, tuberculosis, venereal diseases, anemia and other major illness.

Past Medical History –

Patient had diagnosed with positive for SARS-CoV-2 infection on 25 January 2022 as showed in Figure 1 and 2 respectively. She self-quarantined on the suspicion of the possibility of a COVID-19 infection and took allopathy medicine (Paracetamol, Levo-Cetirizine, Mineral & Vitamin supplements advised by Modern Physician.

Diagnosis -

In this disease, the diagnosis was first done based on her previous history, signs and symptoms. But the final diagnosis was done by Chest radiographic features and

PFT.

Plan Of Study –

- Patient was not taking allopathic medicines during the study period.
- The drugs *Shodhan Chikitsa – Anu Tail Nasya* therapy and *Shaman Chikitsa -Chitrakharitaki & Sitopaladi Churna, Tankan bhasma, Svarnavasant Malti Rasa* required for were procured and prepared in pharmacy of Pt. K.L.S. Govt. Ayurveda College Bhopal (MP).

Duration Of Study – 30 days

Follow Up - Every week for 1 month.

Treatment Regimen –Table no. 1

Parameters Of Assessment

1. Coughing, Dyspnoea, Chest tightness and Wheezing (GINA guidelines)
2. Chest Radiographic Features (Figure:3 & Figure:4).
3. PFT (FEV₁ AND FVC)¹³ (Figure:5 & Figure:6).

Examinations – Table no.2

Vital Data – Table no.3

RESULT

Table no. 4: Subjective Parameters¹⁰ -

Table no. 5: PFT Test Before treatment and After treatment

Table no. 6: Objective Parameter FEV_{1.0} (L), FVC (L), FEV_{1.0}/FVC (%)

The effect of *Shodhan Chikitsa i.e. Nasya therapy and Shaman Chikitsa which included Chitrakharitaki, Sitopaladi Churna, Tankan Bhasma, Svarnavasant Malti Rasa* were observed in the clinical parameters under criteria for assessment. There was relief in Subjective Parameters such as Cough (*Kasa*), Dyspnoea (*Shwasakashtata*), Chest tightness (*Urashool*), Wheezing (*Ghurghurak*), Sputum and Sleep (*Nidra*). This *Ayurvedic* treatment yielded more improvement in the value of FEV_{1.0} (L), FVC (L), FEV_{1.0}/FVC (%) after treatment.

DISCUSSION

Covid-19 is a disease caused by SARS-CoV-2 that triggers respiratory tract infection. It affect upper respiratory tract (sinuses, nose, and throat) and lower respiratory tract (windpipe and lungs). Cough (*Kasa*), Sputum (*Kapha Nishtheevana*), dyspnoea (*Shwasa Krichhata*), are three major cardinal symptoms of chronic bronchitis. In this regard treatment principle should be *Kasahara* (anti-tussive) and *Vata Shamaka* (Pacifying Vata). There are many references of *Anu Tail*. This Herbal oil reference is found in the oldest of *Ayurvedic* treatises like *Charaka Samhita, Sushruta Samhita, Ashtanga Hrudaya,*

*Sahastrayoga. Anu Tail*¹⁵ ingredients are – *Jivanti(Leptadenia Reticulata), Devadaru(Cedrus Deodara), Twak(Cinnamon), Usheera(Vetiveria Zizanioides), Gopi(Ocimum Sanctum), Daruharidra(Berberis Aristate), Madhuka(Glycyrrhiza Glabra), Musta(Cyperus Rotundus), Agaru(Aquilaria Agallocha), Shatavari(Asparagus), Kamala(Lotus), Bilva, Utpala(Nymphaeva Stellata), Brihati(Solanum Indicum), Kantkari(Solanum Xanthocarpum), Shalaparni(Desmodium Gangeticum), Prishniparni(Uraria Picta), Vidanga(Embelia Ribes), Patra(Cinnamon), Ela(Cardamom), Renuka(Vitex Nigundo), Tail Sesame oil), Goat milk. Instead of detailed description of the mode of action of *Nasya Karma*, *Acharya Charaka and Vagbhatta* have given some details regarding it. They mentioned that the medicines administrated through *Nasya* can easily spread into *Shira* and get absorbed and eliminates the *dosha* from *Urdhva Jatrugata Pradesha*. *Urdhva Jatrugata abhyanga* and *Swedana* are done before *Nasya*. These pre procedural measures help in facilitating drug absorption. Due to *Sukshama-Vyavayi Guna* and special preparatory process, *Anutail*¹⁴ possess a good spreading capacity through minute channels. *Tikta-Katu rasa, Laghu-Tikshna Guna, Ushna Veerya* and *Katu Vipaka* make *Srotoshodhaktva*. *Indriyadridhkaratva, Balya, Preerana* and *Brimhana* properties can increase general and local immunity. *Madhura rasa, Sheeta Veerya, Snigdha Guna* and *Tridosahara* properties will promote the nourishment of *Dhatu* which ultimately increases the general and local immunity (mucosal health). *Sitopaladi Churna* is an *Ayurvedic* preparation used for digestive problems and various respiratory issues. *Sitopaladi churna* helps balance the *Kapha* and *Pitta doshas*. It is made from ingredients like *Ela (Cardamom), Twak (Cinnamon), Bamboo (Vanshlochan), Long Pepper (Pippali),* and *Sugar Candy (Khandasharkara)*. The various beneficial properties of *Sitopaladi Churna* may include - anti-inflammatory properties, expectorant (clear mucous from the airways) activity, Immunomodulatory property, Antioxidant, Tonic, Anti-tussive (cough suppressing) potential, potential Detoxifier, Carminative (relieving flatulence) properties, Appetizer, Analgesic (pain relieving) properties, Anti-pyretic (relieving fever)⁶. *Sitopaladi Churna*¹² contains *Deepana* (appetizing) and *Pachana* (digestive) properties that may help to enhance digestion. It also contains carminative properties that might be helpful in gas accumulation and bloating. *Sitopaladi Churna* contains*

Antihistaminic properties and might protect you from allergies⁷. *Sitopaladi Churna* may be helpful in conditions like fever related to flu, cold, chest congestion, pneumonia, tuberculosis, bronchitis, and other respiratory illnesses. This herbal preparation may help control respiratory infections due to its Anti-inflammatory and Antioxidant properties⁸. Instead of detailed description of the mode of action of *Nasya Karma*, Acharya Charaka and *Tankan Bhasma*¹⁶⁻¹⁷⁻¹⁸ (Calcined Borax or *Suhaga* or $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$.) is an *Ayurvedic* calcined formulation prepared from borax powder. In *Ayurveda*, *Tankan Bhasma* or calcine borax is used for productive cough, breathing problems, wheezing, bronchitis, abdominal pain, dysmenorrhea, dandruff, bad breath and foul-smelling urine. *Tankan Bhasma* has following healing properties. Expectorant – main action, Anti-inflammatory, Carminative, Digestive Stimulant, Diuretic, Emmenagogue, Antispasmodic, Fat Burner, Antimicrobial – this action appears in Urinary Infections.

Table no. 7. *Tankan Bhasma* has expectorant action. It melts the thick mucus and help flushing it out from the lungs, which ultimately relieves productive cough. However, productive cough is actually symptom and it may have several underlying causes. One should also rule out these causes and treatment should be added accordingly. However, *Tankan Bhasma* does not alone work in bronchitis. There is also a requirement of other remedies including *Sitopaladi Churna*. It is used in bronchitis when mucus is thick and harder to expelling it out.

*Swarna Malini Vasant Rasa*¹¹ is an *Ayurvedic* medicine, with herbal and mineral ingredients, in tablet form. It is an immunity enhancer and antibiotic medicine used for treatment of chronic fevers, bronchitis, general fatigue, weakness after fever or any wayward disease such as tuberculosis or heart diseases. Its ingredients are *Svarna Bhasma*, *Mukta Bhasma*, *Darada*, *Maricha Kharpara*, *Parada*, *Gandhaka*, *Vyosha*, *Tamra Bhasma*, *Ayas Bhasma*, *Kantakari Rasa*, *Dhatu Rasa*, *Katuki Rasa*. *Swarna Malini Vasant Rasa* is a drug of choice for debility or weakness occurring after fevers or infections. It helps to restore the body strength and natural homeostasis in the human body. In *Ayurveda*, it is generally recommended for treating such cases for 2 to 3 weeks along with *Sitopaladi Churna*.

CONCLUSION

Chitraka Haritaki (Rasayan chikitsa) works well in the preventive as well as curative in both Covid-19 and post covid symptoms. Role of *Anu Tail Nasya* in post covid

symptoms has a special place in treating the *Srotodushti* of various level mainly the *Pranavaha Srotas*. According to a case report *Sitopaladi Churna & Tankan Bhasma* might be helpful in post-covid lung complications due to its affinity towards the respiratory system⁹. *Swarna Malini Vasant Ras* is a drug of choice for debility or weakness occurring after fevers or infections. It helps to restore the body strength and natural homeostasis in the human body. Beside this *Shodhan* and *Shaman Chikitsa* can play an important role to manage Post Covid Bronchitis.

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ORCID

Raju Ninama , <https://orcid.org/0000-0003-1193-3853>

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Table no. 1: Treatment regimen -

S.no	Treatment	Dose	Dosage Form	Duration	Anupana
1.	<i>Chitraharithaki Avaleha</i>	20 gm BD	<i>Avaleha</i>	30 Days	Lukewarm Water
2.	<ul style="list-style-type: none"> ▪ <i>Sitopaladi Churna</i> ▪ <i>Tankan Bhasm</i> ▪ <i>Swarnabasant Malti Ras</i> 	3gm BD 250mgBD 125mg BD	<i>Churna</i>	30 Days	<i>Madhu</i>
3.	<i>Anu Tail Nasya</i>	2-2 Drops	<i>Anu Tail</i>	07 Days	Lukewarm Oil Use

Table no.2: Examinations

General Physical examination	Dashvidh Pariksha	Systemic examination
<ul style="list-style-type: none"> • Appetite- Poor • Bowel- Regular • Bladder- Normal • Sleep-Disturbed • Temperature- Normal • Pallor- Absent 	<ul style="list-style-type: none"> • <i>Prakriti- Vata-Kaphaja</i> • <i>Vikriti- Vataja, Kaphaja</i> • <i>Sara- Madhyam</i> • <i>Samhana- Madhyam</i> • <i>Ahara Shakti- Madhyam</i> • <i>Abhyarana Shakti- Madhyam</i> • <i>Jarana Shakti- Madhyam</i> • <i>Vyayam Shakti-Avara</i> • <i>Vaya- Yuva</i> • <i>Satva-Madhyam</i> • <i>Satmya-Madhyam</i> • <i>Bala- Avara</i> ❖ <i>Ashtavidha Pariksha</i> <ul style="list-style-type: none"> • <i>Nadi-78/min</i> • <i>Jivha-Sama</i> • <i>Mala-Samanya</i> • <i>Mutra-Samyaka</i> • <i>Shabda-Samyaka</i> • <i>Sparsha-Samanya</i> • <i>Drik- Samanya</i> • <i>Akriti-Madhyam</i> 	<ul style="list-style-type: none"> • Cardio Vascular System: S₁S₂ Normal, no added sounds. • Respiratory System: On auscultation wheezing sound present. • Gastrointestinal System: No abnormality detected. • Nervous System- Higher function - Normal • Motor functions- Normal

VITAL DATA –

Table no.3: Vitals

Vitals	Before Treatment	After Treatment
PEFR	85 Liter/min	260 Liter/min
BHT	15 second	32 second
B.P.	120/70 mmHg	110/70 mmHg
R/R	19/min	19/min
Pulse	80/min	75/min
PFT	Severe Obstruction	Normal
SPO ₂	89 %	98 %
Temperature	Non febrile	Non febrile
Chest X-Ray	Non-specific-Increased bronchovascular markings ⁺⁺ Tailor region ⁺⁺	Both lung field is clear, Tailor region is normal

RESULT –

Table no. 4: Subjective Parameters¹⁰ -

Subjective parameters	Before Treatment	After Treatment
Coughing (<i>Kasa</i>)	Present	Absent
Dyspnoea (<i>Shwasakashta</i>)	Present	Absent
Chest Tightness (<i>Urashool</i>)	Present	Absent
Sore Throat	Absent	Absent
Sputum (Thick & Scanty)	Present	Absent
Wheezing (<i>Ghurghurak</i>)	Present	Absent
Sleep (<i>Nidra</i>)	Unsatisfactory	Satisfactory

Table no. 5: PFT Test Before treatment and After treatment –

BEFORE TREATMENT									AFTER TREATMENT								
Params	Pred	Pre			Post			% Change	Params	Pred	Pre			Post			% Change
		Best Effort	Best Value	% Pred	Best Effort	Best Value	% Pred				Best Effort	Best Value	% Pred	Best Effort	Best Value	% Pred	
FVC(L)	2.76	3.24	3.24	117.4	3.59	3.59	130.1	10.8	FVC(L)	2.76	3.62	3.62	131.2	3.65	3.65	132.2	0.8
FEV0.5(L)	—	0.8	0.8	—	0.85	0.85	—	6.2	FEV0.5(L)	—	1.43	1.43	—	1.58	1.58	—	10.5
FEV1.0(L)	2.42	1.69	1.69	69.8	1.89	1.89	78.1	11.8	FEV1.0(L)	2.42	2.42	2.42	100.0	2.56	2.56	105.8	5.8
FEV3.0(L)	2.79	3.18	3.18	114.0	3.56	3.56	127.6	11.9	FEV3.0(L)	2.79	3.42	3.42	122.6	3.64	3.64	130.5	6.4
FEV0.5/FVC(%)	—	24.57	24.57	—	23.8	23.8	—	-3.1	FEV0.5/FVC(%)	—	39.43	39.43	—	43.39	43.39	—	10.0
FEV1.0/FVC(%)	86.76	52.2	52.2	60.2	52.64	52.64	60.7	0.8	FEV1.0/FVC(%)	86.76	66.89	66.89	77.1	70.1	70.1	80.8	4.8
FEV3.0/FVC(%)	—	98.08	98.08	—	99.33	99.33	—	1.3	FEV3.0/FVC(%)	—	94.39	94.39	—	99.84	99.84	—	5.8
FEF25%-75%(L/s)	3.26	1.35	1.35	41.4	1.83	1.83	56.1	35.6	FEF25%-75%(L/s)	3.26	1.94	1.94	59.5	2.18	2.18	66.9	12.4
FEF75%-85%(L/s)	—	0.75	0.75	—	1	1	—	33.3	FEF75%-85%(L/s)	—	0.7	0.7	—	0.81	0.81	—	15.7
FEF25%(L/s)	—	2	2	—	2.3	2.3	—	15.0	FEF25%(L/s)	—	3.57	3.57	—	3.68	3.68	—	3.1
FEF50%(L/s)	3.83	1.64	1.64	42.8	1.9	1.9	49.6	15.9	FEF50%(L/s)	3.83	2.28	2.28	59.5	2.52	2.52	65.8	10.5
FEF75%(L/s)	1.66	0.67	0.67	40.4	1.23	1.23	74.1	83.6	FEF75%(L/s)	1.66	0.91	0.91	54.8	1.05	1.05	63.3	15.4
FEF0.2-1.2(L/s)	—	1.96	1.96	—	2.16	2.16	—	10.2	FEF0.2-1.2(L/s)	—	3.56	3.56	—	3.66	3.66	—	2.8
PEF(L/s)	6.26	2.1	2.1	33.5	2.34	2.34	37.4	11.4	PEF(L/s)	6.26	3.91	3.91	62.5	3.72	3.72	59.4	-4.9
FMFT(s)	—	1.21	1.21	—	0.99	0.99	—	-18.2	FMFT(s)	—	0.94	0.94	—	0.85	0.85	—	-9.6
FVC(L)	—	0	0	—	0	0	—	—	FVC(L)	—	0	0	—	0.01	0.01	—	—
FVI(L)	—	0	0	—	0	0	—	—	FVI(L)	—	0	0	—	0	0	—	—
FVI/FVC(%)	—	0	0	—	0	0	—	—	FVI/FVC(%)	—	0	0	—	0	0	—	—
FVI/FVC(%)	—	0	0	—	0	0	—	—	FVI/FVC(%)	—	0	0	—	0	0	—	—
PIF(L/s)	—	0.14	0.14	—	0.14	0.14	—	0.0	PIF(L/s)	—	0.09	0.09	—	0.1	0.1	—	11.1
PIF50%(L/s)	—	0.14	0.14	—	0.14	0.14	—	0.0	PIF50%(L/s)	—	0.09	0.09	—	0.05	0.05	—	-44.4

Figure:5 (PFT Test)

Figure:6 (PFT Test)

Table no. 6: Objective Parameter FEV_{1.0} (L), FVC (L), FEV_{1.0}/FVC (%)

Objective parameter	Before Treatment	After Treatment
FEV _{1.0} (L)	1.69	2.42
FVC (L)	3.24	3.62
FEV _{1.0} /FVC (%)	52.2	66.89

Table no. 7: Tankan Bhasma Properties -

Rasa	<i>Katu (Pungent), Lavana (Salty)</i>
Guna	<i>Laghu (Light), Ruksha (Dry), Tikshna (Sharp)</i>
Virya	<i>Ushna (Hot)</i>
Vipaka	<i>Katu (Pungent)</i>
Prabhav	<i>Expectorant</i>
Dosha karma (Effect on Humors)	<i>Pacifies Kapha & Vata</i>
Effects on Organs	<i>Lungs, Uterus, Stomach, Urinary Bladder.</i>

RTPCR TEST – POSITIVE	RTPCR TEST – NEGATIVE
Figure:1 (RTPCR TEST)	Figure:2 (RTPCR TEST)

Figure:3 Chest X-ray PA View Before Treatment	Figure:4 Chest X-ray PA View After Treatment