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Research Article

Exploring The Potential Of Rasaushadhis In COVID-19 Management: A Single Case Study

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Abstract-

Several million people were affected by Covid-19 pandemic globally with SARS-CoV-2 virus and its other variants subsequently. During the pandemic several people opted Traditional Indian /alternative systems including but not limited Ayurveda with timely guidelines for mild to moderate infection which could be dealt with Ayurveda management even under isolation. This not only helped in symptomatic relief but also prevented further prognosis. This article presents one such comprehensive case study involving a young female patient diagnosed with SARS-CoV-2 infection. The case study provides an in-depth analysis of the patient's symptoms vis-à-vis treatment plan. This case presented several known symptoms Covid-19, upon which specific Ayurveda medicines including rasaushadhis were administered during the treatment course. As a result remarkable recovery within short time period was evidently observed and recorded symptomatically as well as through investigations done during and after treatment. Therefore it could be fairly concluded that Ayurveda treatments specifically rasaushadhis when given correctly can achieve desired therapeutic results even in complex viral infections like COVID-19.

Keywords – Rasaushadhi, Covid19, Ayurveda

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Introduction-

COVID-19 remains an ever-evolving situation under constant scrutiny by the World Health Organization (WHO) for updates on its spread, mortality, and morbidity.¹ Within Modern Western Medicine (MWM), a specific cure for COVID-19 hasn't yet been identified.²

Ayurveda categorizes COVID-19 as a Janapadodhwamsa vikara (epidemic disease). Charaka

Samhita in Vimanasthana, delves into this concept, highlighting factors common to all individuals within an environment. When these factors are imbalanced, diseases with similar symptoms manifest simultaneously, affecting entire populations and habitats.

In critical cases requiring immediate medical attention, choosing the right medicine is crucial. Rasaushadhis, when prescribed in such situations, have demonstrated

substantial improvements within a short period. They often lead to marked recovery, showing their potential to expedite significant improvements.³

Case presentation

A. Patient information-

Patient 27 year old female, occupation – professional (sedentary job), height 173 cm, weight 74 kg. Place of treatment: Residence – Isolation.

B. Present medical history-

The patient complaints centered around a fever persisting over two days, fluctuating between 99°F to 102°F, accompanied by characteristic of COVID-19. Notably, patient opted for self-medication, relying on Paracetamol 500mg thrice daily and herbal tea to manage her fever. Alongside fever, patient experienced Pratishtayay (cold), Kasa (dry cough), Angamarda (body aches), Kwachit Shirashula (headache), and Gandha and

Rasa agyan (loss of smell and taste), collectively contributing to her overall symptom burden.

Patient undertook self-isolation suspecting COVID-19 infection which was later confirmed with positive nasopharyngeal test for COVID-19. The persistence of fever and the emergence of dyspnoea on the second day was noted, marked by the onset of Shwasa Kastata (breathlessness), necessitating clinical intervention.

Further patient consulted a registered Ayurveda practitioner in Goa on the third day of her illness. Upon telephonic video consultation and limitations in physical examination an X-ray was advised on the third day post-infection and subsequently high-resolution computed tomography (HRCT) of the thorax. These diagnostic procedures proved crucial in understanding the extent of pulmonary involvement, guiding therapeutic decisions crucial for managing SARS-CoV-2 infection effectively. The table outlines the patient's symptoms and their duration as follows:

Table 1- Chief complaints with duration-

Symptoms	Duration
Shwasa Kastata	1 day
Jwar	2 days
Kasa (Sushka)	2 days
Angamarda	2 days
Shirashula	2 days (on and off)
Pratishayay (nasa srava)	2 days
Gandha and Rasa agayan	2 days

C. Past Medical history:

No previous known significant medical history.

Ayurvedic interpretation of the Patient's condition

A. Diagnosis

In this scenario, the initial diagnosis relied on the patient's symptoms and the time of year, given the absence of a confirmed COVID-19 diagnosis. The symptoms were interpreted as consistent with "nija jwara," a fever stemming from imbalances in bodily doshas, particularly Vata and Kapha. Treatment included tailored medications, dietary adjustments, and specific lifestyle recommendations. However, the final diagnosis was reached in 2 days from the day of consultation following a review of extensive COVID-19 literature and diagnostic imaging like chest X-ray (CXR) and high-resolution computed tomography (HRCT) scan. Fevers were categorized based on the doshas involved, offering insights into various types of fevers, including emerging ones.⁴⁻⁵

B. Literature

Susruta Samhita, an ancient Ayurvedic text, provides descriptions of epidemic fevers that share similarities with conditions such as severe acute respiratory syndrome (SARS). These fevers are characterized by a cluster of symptoms including cough, breathing difficulty, vomiting, and headache.⁶

C. Aetiology

In Ayurveda, COVID-19 can be classified or correlated with a Vata-Kapha predominant fever, exhibiting all the

characteristics of a Janapadodhwamsa vikara. This indicates a highly contagious disease. The methods by which contagious diseases spread from one person to another are described in the Susruta Samhita: Nidana Sthana. It mentions, "Skin diseases, fever, consumption, conjunctivitis, and all contagious diseases spread from person to person by indulgence in bodily contact, by coming into contact with another's breath, eating with others in the same plate, sharing of bed and seat, through contact with clothes, ornaments, and cosmetics."⁷

D. Pathophysiology (Samprapti)

Ayurveda, the traditional Indian medical system, views diseases through the lens of Samprapti, which translates to pathogenesis or the process by which a disease develops.⁸ In the context of COVID-19, Samprapti explains how the SARS-CoV-2 virus enters the body and disrupts its natural balance, leading to the manifestation of symptoms. Here's a breakdown of the possible stages of Samprapti in COVID-19 according to Ayurved in this case.

➤ **Sanchaya (Accumulation):** This initial stage involves the accumulation of vitiated Doshas (Vata, Pitta, and Kapha), the governing forces of the body. In the case of COVID-19, an imbalance of Vata and Kapha is believed to be a predisposing factor. Factors in this case when enquired about travelling, stress, unhealthy diet, and lack of sleep can contribute to this imbalance.

➤ **Prakop (Aggravation):** The accumulated Doshas become further aggravated due to exposure to the causative agent – the SARS-CoV-2 virus. This

aggravation can occur through the respiratory channels (Pranavaha Srotas) during inhalation.

➤ **Sthana Sanrakshana (Lodgment):** The virus finds a suitable environment in the lungs (Shleshaka Kapha Sthana), which is considered the seat of Kapha Dosha. This allows the virus to establish itself and replicate.

➤ **Vyakta/Vyaadhi (Manifestation):** As the virus replicates and disrupts the natural balance, specific symptoms associated with COVID-19 begin to manifest. These symptoms can vary depending on the individual's Prakriti (constitution) and the dominant Doshic imbalance. Common symptoms may include

fever, cough, fatigue, loss of taste, cold and smell, body aches, and breathing difficulties.

➤ **Vyadhi Poshana (Nurturing the Disease):** This stage refers to the progression of the disease if left untreated. The viral replication continues, potentially leading to complications depending on the severity of the Doshic imbalance.

➤ **Samprapti Virodha (Breaking the Pathogenesis):** This stage represents the body's natural defence mechanisms attempting to fight off the infection and restore balance. Ayurvedic interventions like herbal remedies, dietary modifications, and lifestyle practices aim to support this process.

Table 2: Ayurvedic Samprapti Ghatak of the disease: ⁹

Type of Disease	Saṅkramika (Contagious, Communicable)
Impact of Disease	Janapadodhvaṃsa (Affects large number of human settlements)
Disease Nomenclature	Jvara (Fever) Agantuja jvara (Fever of exogeneous origin) Bhutabhiṣaṅgajvara (Fever caused by invasion of pathogens)
Specific Etiology	Viṣakṛmijanya (Caused by virulent pathogen)
Doṣavaiṣamya (Nature of doṣa imbalance)	Sannipata (derangement of all three dosas)
Dosavikalpa (Granularity of dosa imbalance)	Vatakaphapradhana Pittanubandha
Dusya (Body elements affected)	Rasa (in early stage), Rakta (in late stage)
Srotas (Affected body channels)	Pranavaha, Udakavaha, Annavaha, Rasavaha
Rogamarga (Disease pathway)	Kostha, shakha (In early stage), Madhyama (In late stage)
Upadrava (Complication)	Svaskrcchata (Shortness of breath)
Vyadhisvabhava (Nature of the disease)	Asukari (Acute)
Sukhasadhya (Favourable Prognosis)	Alpalingatva (Mild symptoms) Ekaroga marga (Affects only one disease pathway), Balam (Immunity), Yauvanam (Younger age)
Krccharasadyata (Difficulty to manage)	Madhyalingatya (Moderate Symptoms) Svaskrcchra (Shortness of breath), Sakhagatatva (Involvement of external disease pathway)
Asadyata (Bad Prognosis)	Vibaddhdosatva (dosas in mutual opposition), Purnalingtava (full range of symptoms), Agninasā (Digestive and metabolic crisis), vardhakya (Old age), Rogasankara (Co- morbities), Marmagatava (Involvement of vital organs)

2.5. Therapeutic intervention

The patient received a combination of Ayurvedic medications, dietary modifications, and lifestyle recommendations throughout her illness.

Rasaushadhis:

Shwasakasa Chintamani: This formulation is effective in countering inflammation and irritation in the airways, potentially reducing symptoms like cough and shortness of breath.¹⁰

Sameerpannag Rasa: this drug is useful in condition of shwasakastha, kasa jwara.¹¹

Abhrak Bhasma (100puti): This preparation is known for its immunomodulatory properties and support the body's natural defence mechanisms.¹²

Godanti Bhasma : This Bhasma might possess anti pyretic, anti-inflammatory and digestive-stimulating properties, aiding recovery.¹³

Tankan Bhasma : This Bhasma expels Vikrut Kapha from the respiratory tract, potentially alleviating cough and chest congestion.¹⁴

Dietary Modifications:

The patient was advised to follow a light and easily digestible diet rich in vegetables, fruits, and clear broths. Spicy, oily, and processed foods were avoided to minimize.

Lifestyle Recommendations:

- Adequate rest and sleep were prioritized to promote healing.
- Following a regular daily routine with consistent sleep and wake times was encouraged.

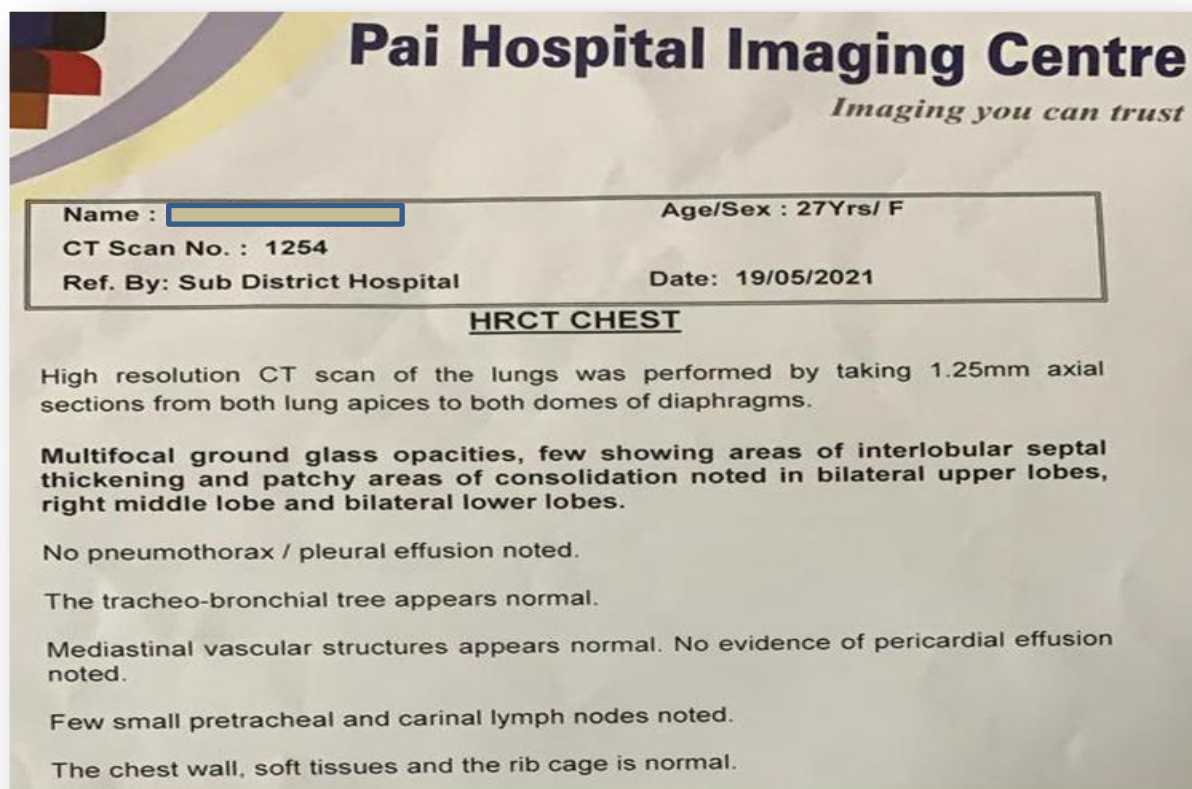
Table 3 Intervention

Intervention	Description	Purpose
Rasaushadhis (Mineral-based Formulations):	<ul style="list-style-type: none"> * Shwaskasa Chintamani * Sameerpannag Rasa * Abhrak Bhasma * Godanti Bhasma * Tankan Bhasma 	These formulations target Kapha Dosha imbalance and respiratory issues, potentially reducing inflammation, congestion, and aiding breathing.
Dietary Modifications:	* Light and easily digestible meals	<ul style="list-style-type: none"> * Focus on Khichadi (rice and lentils) cooked with ghee and digestive spices like ginger, cumin, and fennel. Include plenty of steamed or roasted vegetables like carrots, spinach etc. Opt for easily digestible fruits like papaya, apples, and pears. * Consume warm soups and broths for hydration and nourishment. Avoid: Spicy, oily, and processed foods, fried foods, dairy products (initially), and excessive sugar.
Lifestyle Recommendations:	Adequate rest and sleep (aim for 7-8 hours per night) Consistent sleep-wake routine Pranayama (yogic breathing exercises) Gentle yoga or stretching Meditation or relaxation techniques	Enhance recovery, reduce stress and anxiety, support the immune system, and promote overall well-being.
Additional Considerations:	Steam inhalation with plain water or fresh Pudina (Mint) leaves or Ajwain (Caraway seeds) or Karpur (Camphor) can be practised once in a day in case of sore throat. Gargling with warm salt water can soothe a sore throat. Applying warm oil (e.g., sesame or coconut) on the chest and soles of the feet can promote relaxation and ease congestion.	Provide symptomatic relief and promote healing.

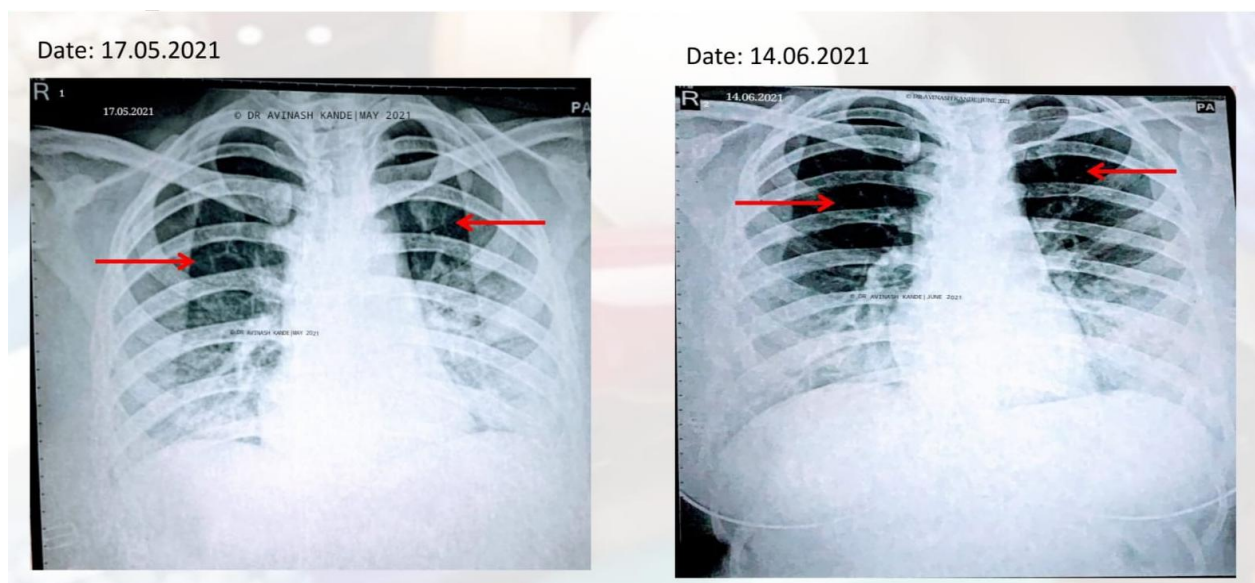
Table 4 Course of the disease

Date/Day	Symptoms	Test/Result	Treatment
Day 1	Fever (100° F) Cough Body ache On and off headache Cold Loss of smell and taste	NA	Paracetamol 500mg thrice a day, Herbal tea
Day 2	Symptoms like fever continued to persist after the PCM effects wore off. Cough (dry) Body ache Cold Started with breathlessness. Loss of smell and taste	Nasopharynx test	Paracetamol 500mg thrice a day, Herbal tea
Day 3	High fever (102° F) Cough Severe Body ache Cold Loss of smell and taste Consulted doctor on this date in Goa	Nasopharynx test positive. Recommended proceeding with both a chest X-ray and an HRCT scan.	Shwaskasa Chintamani (Stat) Sameerpannag rasa Abhrak bhasma (100 puti) Godanti bhasma Tankan Bhasma with anupana

		CXR- 17/5/2021	
Day 4	Persistent Fever 100° F Persistent Cough Body ache continued Cold No Breathlessness Loss of smell and taste	NA	Abhrak bhasma (100 puti) Godanti bhasma Tankan Bhasma with anupana
Day 5	Fever (99° F) Cough was reduced. Body ache reduced. Loss of taste and smell	HRCT Report suggested of COVID positive	Same as above
Day 6 - 9	No fever Cough minimal No body ache Taste and smell was restored	NA	Same as above except Godanti bhasma
Day 14- 30	No complaints	X ray was removed (After one month)- clear chest	Ayush Kwath (once in morning) Guduchi ghanavati – 1 in the morning



Investigations: HRCT Chest:



Comparative Chest X-Ray PA View:

Table 5. Medicines During the course with Dosage and Anupana-

No	Aushadhi/ Medicine	Matra/Dosage	Anupana/Vehicle	Aushadh Sevan Kaal
1	Shwaskasa Chintamani	125mg	Ghrita	Stat
	Sitopaladi churna	1gm		
2	Sameerpannag rasa	125mg	Madhu	Three times a day after food
	Tankan Bhasma	125mg		
	Abhrak bhasma (100 puti)	125mg		
	Yastimadhu Suksma churna	250mg		
	Sitopaladi churna	500mg		
3	Godanti Bhasma	125mg	Ushnodak	SOS for fever
	Shadangpaniya churna	5gm		

Discussion

The Ayurvedic medicines used in this case study leverage the holistic principles of Ayurveda to restore balance and support the body's natural defence mechanisms against COVID-19. Here's a detailed discussion of the potential mechanisms and benefits of each formulation used:

Shwaskasa Chintamani with Sitopaladi churna + Ghrita

Mechanism: Anti-inflammatory and Bronchodilatory
Effects: Shwaskasa Chintamani is known to reduce inflammation and irritation in the respiratory tract, potentially easing symptoms like cough and shortness of breath. Ghrita is known to soothe the respiratory tract and enhance the absorption of the active ingredients. Ghrita, in particular, has oleation properties that help to balance Vata and Pitta doshas, providing a calming effect on the body.¹⁵⁻¹⁶

Sameerpannag Rasa with Sitopaladi Churna + Madhu

Usage: Effective in Kapha disorders, Sannipata (a condition involving imbalance of all three doshas), and

Kapha predominant diseases. **Mechanism:** Helps in the dissolution of Kapha in the respiratory channels (pranavaha srotas) at the chest-lung region (ura-phuphusa sthan) without disturbing tissue structure or secretion. It also prevents further cytokine storm in the lower respiratory tract. **Key Ingredients: Parad-Gandhak:** Known for stimulating vata in the chest region (ura pradesh vata).¹⁷⁻¹⁸

Abhrak Bhasma (100 Puti) with Yastimadhu Churna, Madhu

It helps in conditions like Ghurti (chronic cough), Shwasa (respiratory issues), Prameha (diabetes), Aruchi (anorexia), Kasa (cough), and is effective against difficult-to-treat diseases, low digestive fire (mandagni), and stomach pain). Possess properties like **Yogavahi:** Acts as a catalyst, enhancing the properties of other medicines, **Jivaniya:** Life-giving, **Ura-phuphusa,** **Kaphasthan-balya:** Strengthening the chest-lung region and the Kapha sites in the body. Yastimadhu is known for its anti-inflammatory and mucosal healing properties. Combined with honey, it helps to soothe the respiratory tract and enhance the body's response to infection.¹⁹⁻²⁰

Tankan Bhasma with Sitopaladi Churna and Madhu

Mechanism: Expelling Kapha: Tankan Bhasma is known for its ability to expel Kapha from the respiratory tract, alleviating cough and congestion. **Enhanced Absorption:** The combination with Sitopaladi Churna which is said to be acting on shwasa, kasa, kshaya, burning sensation in hands and feet, mandagni, aruchi and fever²¹ and honey not only improves the taste but also aids in better absorption and efficacy of the medicine.²²⁻²³

Godanti Bhasma with Shadangodak (Ushnodak of Shadangpaniya churna)

Mechanism and Benefits: Anti-inflammatory, antipyretic and Digestive Support: Godanti Bhasma has anti-inflammatory properties and helps in improving digestion and metabolism, which can be crucial during recovery from viral infections. The combination with Shadangpaniya Churna provides a synergistic anti pyretic effect that helps to reduce fever and subsequent inflammation.²⁴

General Benefits of Ayurvedic Interventions:

Holistic Healing: The integration of dietary modifications and lifestyle recommendations enhances the overall treatment effectiveness by promoting a balanced state of body and mind.

Reduced Symptom Severity: The selected Rasaushadhis focus on reducing the symptoms' severity, improving respiratory function, and supporting the immune system.

Personalized Medicine: Ayurveda's approach of personalizing treatment based on individual constitution (Prakriti) and the specific nature of the disease (Samprapti) ensures a tailored therapeutic strategy that aligns with the patient's unique needs.

The use of these specific Ayurvedic medicines, supported by appropriate anupanas, shows a promising integrative approach to managing COVID-19 symptoms. Each formulation plays a distinct role in alleviating respiratory symptoms, reducing inflammation, and boosting the immune system, thereby offering a comprehensive method to enhance recovery. However, further clinical studies with larger sample sizes are essential to validate these findings and establish standardized treatment protocols.

Conclusion

The integration of Ayurvedic Rasaushadhis with conventional treatment provides a complementary approach to managing COVID-19 symptoms. The case study illustrates the potential benefits of this integrative strategy, highlighting the need for further research to develop standardized protocols and validate the efficacy of Ayurvedic interventions in mainstream healthcare for managing complex viral infections like COVID-19.

Limitation

A larger sample is needed for further study before a standard protocol for the treatment of COVID-19 can be developed, given that this is only a single case study. The abundance of Ayurvedic medicines traditionally

employed for various types of fever, including Vata-Kaphaja and Sannipataja Jwara, suggests a promising array of options that may offer efficacy against COVID-19. However, our study's scope is limited by the vastness of these treatments. Our study focused solely on Rasa Ayurvedic medicines, limiting our exploration to this specific category.

Recommendations for Future Research

Future studies should aim to include larger sample sizes and consider various Ayurvedic treatments to establish a more comprehensive understanding of the potential benefits of Ayurveda in managing COVID-19. Collaborative efforts between Ayurvedic practitioners and modern medical professionals could further validate and integrate these traditional practices into mainstream healthcare.

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Conflict of interest

None

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