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Case study: Ayurvedic approach as an adjuvant therapy in the management of COVID -19

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Abstract

The Corona Virus disease 19 (COVID-19) pandemic is unique and unprecedented in several aspects and has challenged health care systems. In spite of advanced modern medicine still there is no any sure treatment available which cures COVID-19 patient completely. Ayurveda has ability to cure the disease as well as ability to reduce its complication. Material and Method: A 54 years female, medium built patient was admitted in our hospital which is tested COVID-19 RT-PCR positive, having complaints of dry cough, dyspnea on exertion, fever, body ache, Headache on & off, generalized weakness. Treatment was given i.e. *Ayurvedic* as well as modern medicine. Results: Patient started improving from day 4th and at the end of 10th day there was a good improvement in all the symptoms. Discussion: We report this case to show that COVID-19 is a condition. This is also an invaluable opportunity for demonstrating the efficacy of *Ayurveda*.

Keywords: Covid-19; Pandemic; Ayurveda; Janapadhwansa Vikara

1. Introduction

The whole world is faced with major health crisis following the global pandemic of COVID-19. Severe Acute Respiratory Syndrome Corona Virus-2 (SARS CoV 2) is a Pandemic disease caused by Novel Corona Virus 2^[1]. This disease is contagious. COVID-19 is a rapidly changing and evolving situation. The overall world population has been facing the aftermath of Pandemic on physical, mental and economic levels. World Health Organization (WHO) is constantly monitoring it and updating the information available regarding its spread, mortality, and morbidity. So far in Modern Western Medicine (MWM), no cure has been found which is specific to COVID-19. From the *Ayurvedic* point of view, COVID-19 is a *JanapadodhwansaVikara* (epidemic disease). The concept of an epidemic is described in *Charaka Samhita: Vimana Sthana*, Chapter 3^[2]. Factors which are common for all the inhabitants of a country are air, water, location and seasons.^[5] *Janapadodhwansa is* situation where the environment air, water, land and seasons is vitiated, causing a simultaneous manifestation of a disease among large populations (epidemic) and destroying human habitations^[3].

COVID-19 is a Novel disease i.e. *Anuktavyadhi* according to *Ayurveda*. ^[4] One should not be ashamed of one's inability to name a disease, since all disorders cannot be given standard names. There are innumerable diseases because the same vitiated *Dosha* causes various disorders according to variations in etiology and location.

This article contains case study, where a patient of COVID-19 disease, tested positive with mild to moderate symptoms admitted in our hospital. Managed with *Ayurvedic* along with modern medicine and get fully relieved of his symptoms.

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As COVID-19 is new disease so a detailed study of the etiology (*Nidana*), status of *Tridosha*, structural elements (*Dushya*) and site of disease (*Sthan*) is discussed in this article.

Aim and Objectives

- To study the Ayurvedic medicines in the management of COVID-19
- To compare the ancient Ayurvedic knowledge with the recent pandemic of COVID-19

2. Case Presentation

2.1. Patient information

A 54 years female, medium built patient was admitted in our hospital, who was tested COVID -19 RT-PCR positive.

2.2. Symptoms

Jwar on and off since 2-3 days

Alpa Shushka Kasa since 2 days

Ayasen Shwaskashthata since 2-3 days

Dourbalya, Agnimandya since 7-8 days

2.3. Samanyaparikshana

- Pulse 98/min; Nadi Vataj
- B.P. 140/70 mm of Hg; Mala Asamyaka
- RS B/L basal crepts; Mutra Samyaka
- CVS S1S2 normal; Jivha Saama
- CNS Conscious oriented; Kshudha Mandya
- P/A Soft; Shabda –aspastha
- RR 30/min; Sparsha Ushna
- SPO2 94 % @ R.A; Druka Prakruta
- Temp. 93.2º F; Aakruti Madhyama

Details of the symptoms, number of days it lasted, tests performed and medicines recommended are given below in Table.

2.4. Past Medical History

Patient was known case of Diabetes mellitus and Hypertension along with Ischemic heart disease since 10-12 years and on regular medications.

2.5. Diagnosis

Diagnosis was made on the basis of symptoms, season and RT-PCR COVID-19 test.^[5]

CXR (P/A) view

2.6. Ayurvedic interpretation of the patient condition

2.6.1. Samprapti Ghatak

- Dosha Kapha Vaata Pitta
- Dushya Rasadidhatu
- Vyadhiswabhav Ashukari
- Srotas Rasavaha, Pranavaha, Annavaha
- Vikarprakruti Darun

- Udbhavsthan Nasa Pradesh
- Utpattisthan Rasavaha, Annavaha, Sarvdeha
- Agni Vishamagni

2.6.2. HETU

Pradnyaparadha+ Janapadodhwansa + Aoupsargika Vyadhi

Pradnyaparadha [6]

Contravening the rules & regulation of – lockdown, social distancing, travelling, staying at home, and use of Mask.

Janapadodhwansa

Factors which are familiar to the people under a particular community like air (*Vayu*), water (*Jala*), region (*Desha*), seasons (*Kala*), sinful acts (*Adharma*) in the form of war are responsible for *Janapadodhwansa*.

Aoupsargika Vyadhi [7]

According to the *Sushrut Samhita*, expired air or inhalation of a droplet from an infected person (*Nishvasat*), eating in the same plate with others (*Sahabhojanat*), sharing beds (*Sahashayyasanat*), using clothes, garlands & utensils used by an infected person (*Vastramalyanulepanat*) can be considered as the mode of transmission of COVID-19 pandemics.

Purvaroop

Agnimandya, Angamarda, Mandjwara

Roop

Increased Agnimandya, Angamard, Jwara, Shwas, Kasa

2.6.3. Samprapti

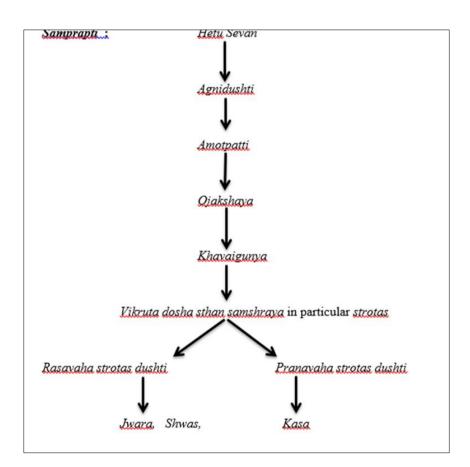


Figure 1 Samprapti of Disease

2.7. Treatment given

 Table 1
 Assessment & Treatment Protocol

Day	Symptoms	Treatment		
Day 1	Dry cough	Aayushkwath Vati 2 BD		
	Dyspnea on exertion	Sukshmatriphala Vati 2 TDS		
	Fever on and off	Sanshamani Vati 2 TDS		
	Body ache	Dhatrinisha Vati 2BD		
	Headache on & off Generalized weakness	Vishan Yoga (Rasasindoor 125 mg+Shrunga Bhasma250mg+Pooshkarmool 500 mg + SitopaladiChurna 1 gm = 1 TSF TDS with koshnajala)		
		Twakadi Dhoopan TDS		
		Hemgharbh Pottali Rasyan Chatan with Adrakswaras QID		
		Haridralavanjala Kaval TDS		
		Inj. MPS 40mg IV stat		
		Inj. H. Actrapid Insulin according to BSL		
		Tab. Azee 500 1 OD		
		Tab. Telma-AM (40+5) 10D		
		Tab. Glycomate SR 500mg 1BD		
		Tab. Vit C 1 OD		
		Tab. Supradyn 1 OD		
		Cap. Ecosprin AV 150/20 1HS		
Day2	Dry cough	Aayushkwath Vati 2 BD		
	Dyspnea on exertion	Sukshmatriphala Vati 2 TDS		
	Fever on and off	Sanshamani Vati 2 TDS		
	Body ache	Dhatrinisha Vati 2BD		
	Headache 🗸	Vishan Yoga (Rasasindoor 125 mg +		
	Generalized weakness	Shrunga Bhasm250mg + Pooshkarmool 500 mg + SitopaladiChurna 1 gm) = 1 TSF TDS with KoshnaJala		
		Twakadi Dhoopan TDS		
		Hemgharbh Pottali Rasayan Chatan with AdrakSwaras QID		
		Haridralavanjala Kaval TDS		
		Inj. Dexa 4 mg IV BD		
		Inj. H. Actrapid Insulin according to BSL		
		Tab. Azee 500 1 OD		
		Tab. Telma-AM (40+5) 10D		
		Tab. Glycomate SR 500 BD		
		Tab. Vitamin C 1 OD		
		Tab. Supradyn 1 OD		
		Cap. Ecosprin AV 150/20 1HS		
Day 3	Mild dry cough	Same medicine continued		
	Dyspnea on exertion			
	Mild fever			
	Body ache 🛛 🗸			

	Headache	
	Generalized weakness	
	deneralized weakiessy	
Day 4	Dry cough $\bigvee \bigvee$ Dyspnea on exertion Fever \bigvee Body ache Headache \bigvee Generalized weakness	Same medicine continued
Day 5	Dyspnea Fever Body ache Weakness 25-30% Headache	Aayushkwath Vati 2 BD Sukshmatriphala Vati 2 TDS Sanshamani Vati 2 TDS Dhatrinisha Vati 2BD Vishan Yoga (Rasasindoor 125 mg + ShrungaBhasma 250 mg + Pooshkarmool 500 mg+SitopaladiChurna 1gm) = TDS with Koshnajala TwakadiDhoopan TDS Hemgarbha Pottali Rasayan Chatan with AdrakSwaras QID Haridralavanjala Kaval TDS Inj. H. Actrapid Insulin according to BSL Tab. Azee 500 1 OD Tab. Telma AM (40+5)1OD Tab. Telma AM (40+5)1OD Tab. Glycomate SR 500 1BD Tab. Vitamin C 1 OD Tab. Supradyn 1 OD Cap. Ecosprin AV 150/20 1HS
Day 6	30-40 % relief in all below symptoms - Dry cough Dyspnea on exertion Fever Body ache Headache Generalized weakness	Same medicine continued
Day 7	40-50% relief in all symptoms.	Aayushkwath Vati 2 BD Sukshmatriphala Vati 2 TDS Sanshamani Vati 2 TDS Dhatrinisha Vati 2 BD Vishan Yoga (Rasasindoor 125 mg + ShrungaBhasma 250 mg + Pooshkarmool 500 mg + Sitopaladi Churna1 gm)= 1 TSF TDS with koshnajala Twakadi Dhoopan TDS Haridralavanjala Kaval Tab.Telma–AM (40+5) 10D Tab. Glycomate SR 500mg BD Tab. Vit C 1 0D

		Tab. Supradyn 1 OD Cap. Ecosprin AV 150/20 1HS
Day 8	50-60 % relief in all symptoms.	Same medicine continued
Day 9	50-60 % relief in all symptoms.	Same medicine continued
Day 10	60-70 % relief in all symptoms.	Same medicine continued

2.8. Details of Ayurvedic Management

2.8.1. Aayushkwath Vati^[8]

Table 2 Drug Content & Mode of Action of Aayushkwath Vati

Name	Latin name	Doshghnata	Mode of action
Tulasi	Ocimum sanctum (Linn.)	Kapha – Vatahara	Vishamajwarahara, Shwaasa-Kasaghna, Bhutaghni
Shunthi	Zinzeberofficinale (Roxb.)	Kapha – Vatahara	Deepan, Pachana, Jwarahara
Krishna Marich	Piper longum (Linn.)	Kapha – Vatahara	KasaShwasahara, Rasayan
Dalchini	Cinnamomum zeylanicum (Breyn.)	Kapha – Vatahara	Deepan, Pachan, Vataanulomana, Ojovardhak

2.8.2. Sukshma TriphalaVati

Table 3 Drug Content & Mode of Action of Sukshma TriphalaVati

Amalaki	Embilica officinalis (Gaertn.)	Tridoshahara	Rasayan, Vibandhahar, Pramehaghna
Haritaki	Terminalia chebula (Retz.)	Tridoshahara	Rasayan, Malashodhak, Pramehaghna, Kasaghna
Bibhitaki	Terminalia bellerica (Roxb.)	Kaphaghna	Bhedan, Kasaghna, Krimighna,Swarbhedahar
Guduchi	Tinospora cordifolia (Willd.)	Tridoshahara	Rasayan, Jwaraghna, Hrudya, Krimihara, Shwas- Kasahara
Haridra	Curcuma longa (Linn.)	Kaphapittahara	Shothaghna, Kasaghna,Mehahara,
Kajjali	Black Sulphide Of Mercury	Tridoshahara	Jantughna, Saptadhatuvardhan,

2.8.3. Samshamani Vati^[9]

Table 4 Drug Content & Mode of Action of Samshamani Vati

Guduchi Tinosporacordifolia	Tridoshahara	Rasayan,Jwaraghna, Hrudya, Krimihara, Shwas-Kasahara
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	(Willd.)	
Kajjali	Black Sulphide of Mercury	Jantughna, Saptadhatuvardhan,

2.8.4. Dhatrinisha Vati

Table 5 Drug Content & Mode of Action of Dhatrinisha Vati

Amalaki	Embilicaofficinalis (Gaertn.)	Tridoshahara	Rasayan,vibandhahar, Pramehaghna
Haridra	<i>Curcuma longa</i> (Linn.)	Kaphapittahara	Shothaghna, Kasaghna,Mehahara,

2.8.5. Vishan Yoga

Table 6 Drug Content & Mode of Action of Vishan Yoga

Drugs	Doshghnata	Drug ation
Rasasindura ^[10] (Shuddhaparad, Shuddhagandhak, Shuddhanavasagar)	Balances Vata, Pitta, Kapha Kaphahara	Rasayan, Shothahara, Shwasa – Kasahar , Shwasanakjwarahara
Shrungabhasama ^[11] (Mrugashrunga)	Tridoshahara	Hrudya, Kaphajashwashara, Shwasanakjwarahara, act on Pranavahsrotasa
Pusharamool ^[12] (Inularacemosa)	Vataghna	Vatakapha-Jwarahara, Shothaghna, Shwasa- Kasahara,
Sitopaladichoorna ^[13] (Sitopala, Pippali,Ela,Twaka)	Tridoshahara	Shwaskasaghna, Kanthya, Swarya, Agnivardhaka,Aruchinashaka

2.8.6. Hemgharbh Pottali Rasayan

Table 7: Drug Content & Mode of Action of Hemgharbh Pottali Rasayan

Drugs	Latin name	Doshghnata	Drug Action
Shuddha Parada	Purified mercury	Tridoshahara	Sukshmasrotas,Yogavahi
Shuddha Gandhak	Purified sulphur	VataPittashamak	Veeryakara, Pushtikara, Drudhadeha,Vahnikara, Prajakara
Swarna Bhasma	Gold bhasma	Tridoshahara	Ayurkaram, Rasayan, Prabhakaram, AkhilaVyadhiVidhwansi, Bhutaveshaprashanti, Pushti-Prakashi
Tamra Bhasma	Copper bhasma	Pitta kaphashamak	Rasayan, Balya
Kumari Swaras	Aloe verajuice extract	Vatt Pitta Shamak	Bhedeni ,Rasayan,Bhruhan,Jawarhar

2.9. Twakadi Dhoopan

2.9.1. Ingredients

Twaka, Ela, Tamalpatra, Vala, Chandan, Nagakeshara, Renukbeeja, Agaru Padmakashtha, Musta.

Use - main action and properties of Dhoopan Dravyas are antimicrobial, antiviral, antifungal. Fumigation with the help of these drugs destroys worms and germs in environment.^[14]

3. Discussion

3.1. Limitations

Since this is a single case study, it calls for a larger sample to be studied, before we can develop a standard protocol for the treatment of COVID-19. The physical distance between the patient and doctor made it difficult to examine and observe the patient directly. There are a large number of Ayurvedic medicines that are currently in use for all types of *Vata-Kaphaja* and *Sannipatajajwara* which may prove to be effective for COVID-19.

3.2. Strengths

It is noticed that the patient's condition did not deteriorate. So it can be presumed that the management of COVID-19 with the given *Ayurvedic* medicines arrested the progress of the disease to a more serious state. Despite the patient having cough and fever, the patient did not worsen and develop severe breathlessness. This patient had recovered in 10 days. Hence it can be said that the duration of the disease was presumably shorter because of the *Ayurvedic* medicines.

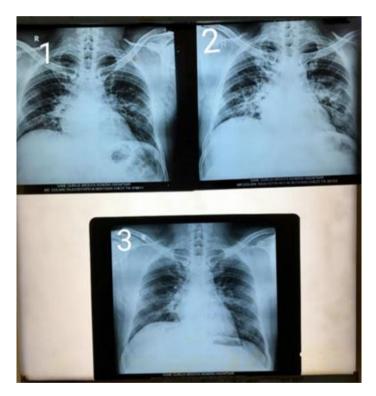


Figure 2 Chest X-ray Assessment during Treatment

The regulated diet played an important supportive role in the cure. The diet was advised so that it did not further aggravate the *Doshas*, it was easy to digest (*Laghu*), it stimulated the digestive fire (*Agni Deepanam*) and it nourished the patient. The diet recommended for the patient, namely soup made of moong dal and cooked parboiled rice is included in the recommended diet in management of fevers. These are two of several preparations as described in the texts, as part of a larger detailing of food preparations and their effects on *Doshas* and diseases. We report this case to show that COVID-19 is a condition where usage of *Ayurvedic* medicines & diet might have contributed to the case not turning critically ill.

Rsayan Chikitsa is recommended for treatment of *Janapadoshwamsa*. It helps to maintain systemic and local immunity (*Vyadhikshamatva*) of an individual. *Vyadhikshamatva of an individual is directly proportional to strength of that* individual. Strength *is Bala which is Dehabala (Body strength), Agnibala (Digestive capacity) and Manobala (Mental strength)*.^[15]

Hereby showing the chest x-ray of patient admitted taken on day 1st, day 5th and day 10th respectively numbered 1, 2 and 3.

- Chest x-ray suggestive of bilateral lower lobe haziness. On auscultation, patient had bilateral lower lobe crepts, mild exertional dyspnoea, with cough and fever.
- Chest x-ray suggestive of increased bilateral lower lobe haziness. On auscultation, patient had bilateral lower lobe crepts, mild exertional dyspnoea, with cough and fever. Patient was stable and didn't deteriorate.

Chest x-ray suggestive of decreased bilateral lower lobe haziness. All symptoms including exertional dyspnoea, cough and fever were decreased. On auscultation, breathing sounds were clear.

4. Conclusion

We report this case to show that COVID-19 is a condition where focused Ayurvedic treatment, if given, may prevent the deterioration of the disease into a more critical condition. This patient's presentation was not mild. But he didn't become critically ill owing to Ayurvedic intervention and regulated diet. India is in a position to use the wealth of knowledge available in the Indian Systems of Medicine, to cure this diseaseand control the epidemic. This is also an invaluable opportunity for demonstrating the efficacy of Ayurveda.

Compliance with ethical standards

Acknowledgments

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Disclosure of conflict of interest

The authors declare that there was no conflict of interest regarding the publication of manuscript.

Statement of informed consent

Informed consent was obtained from the individual participant included in the study.

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