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## Case Report

## Personalized ayurvedic approach involving Sadyo Vamana in COVID-19 management: A case report



Adil Rais <sup>a, \*</sup>, Rajdip Rao <sup>b</sup>, Tarun Kumar <sup>c</sup>, Rajkala P Patil <sup>d</sup>, R. Galib <sup>e</sup>,  
Devendra Singh Negi <sup>f</sup>, Anup B. Thakar <sup>g</sup>

<sup>a</sup> Ayurveda Medical Officer, State Ayurvedic Hospital, Maharajganj, H.No. 293/28, Old Haiderganj, Sultanpur, Lucknow, Uttar Pradesh, 226003, India

<sup>b</sup> Sheth JP Government Ayurveda College, Bhavnagar, Gujarat, India

<sup>c</sup> CCRAS, RARI, Ranikhet, Uttarakhand, India

<sup>d</sup> Department of Panchakarma, IMS-BHU, Varanasi, India

<sup>e</sup> Department of RSBK, All India Institute of Ayurveda, New Delhi, 110076, India

<sup>f</sup> Health and Medical Services, Uttar Pradesh, India

<sup>g</sup> IPGT&RA, Gujarat Ayurved University, Jamnagar, India

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## ABSTRACT

Sars Cov-2 has emerged as a global threat worldwide. At present, India is the second worstly-hit nation by COVID-19. Since it is a novel virus, there is no specific treatment strategy available at present. A mild symptomatic case of COVID-19 was managed through Ayurvedic intervention involving a personalized approach based on his *Prakruti*. He was prescribed *Vamana Karma* followed by *Vyaghryadi Kashaya* as an oral drug for fifteen days. The patient recovered well clinically, the disease progression to a more severe stage was not observed and the patient tested negative for COVID on the 17th day. In this report, the patient was of *Kapha* predominant *Prakruti* and his strength was good so he was prescribed *Vamana Karma*. Ayurveda advocates patient management by incorporating personal physical and mental attributes classified as *Doshas*. The promising results in the present case study indicate that a personalized approach involving Ayurveda in such cases can be helpful for a better prognosis.

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## 1. Introduction

The rapid spread of SARS Cov-2 or COVID-19 almost brought the world to a standstill and emerged as one of the biggest threats for the health and economy across the globe. It stands as a challenge to the medical fraternity as a whole. Currently, India stands as the second most severely affected country. The numbers are expected to worsen in near future due to the rapid exponentiation of the virus. So far, no specific cure has been devised. However, vaccination drive is in progress throughout the world.

The clinical features of COVID-19 share a resemblance with the features of *Jwara* [1] and *Dushta Pratishyaya* (*Chi.26/109*) [1] mentioned in Ayurveda classics, especially having a preponderance of *Kapha Dosh* (~Biohumour). If the patient is having good strength

and *Kapha Dosh* is predominant then *Vamana* can be opted as a choice of treatment (*Chi.3/146*) [1]. Hence, Ayurveda intervention, involving a personalized approach based on *Prakruti* (~nature based on of physical and mental attributes) of patient was planned for a COVID-19 patient. *Vamana Karma* (*Panchakarma* treatment which includes induced emesis) was followed by oral drugs (~decoction of *Vyaghryadi Kashaya*) was planned after obtaining informed consent from the patient under a planned protocol. This *prakruti* based assessment and management in COVID-19 through Ayurveda makes this a unique case. The same is being presented in this case report.

## 2. Patient information

A 33 years old male with moderate physical strength and good *Satva* (~will power) tested positive for COVID -19. The patient was of *Kapha* predominant *Prakruti* (predominant humor was *Kapha*), had normal bowel habits. He was working as a banker in a

\* Corresponding author.

E-mail: [adil.rais13@gmail.com](mailto:adil.rais13@gmail.com)

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government sector bank at Lucknow, India, which made him susceptible for a probable exposure to the Corona virus.

### 3. Clinical findings

He presented with following symptoms loss of sense of smell, congestion in the nasal region, heaviness in the head, sore throat, and fever (Table 2).

### 4. Diagnostic assessment

After one day of contracting the symptoms, he got tested for novel Corona virus infection through Real-Time PCR, which is considered as gold standard investigation for COVID-19. The patient tested positive for it.

### 5. Therapeutic intervention

The patient chose to be under home isolation as the symptoms were mild and was started Ayurvedic medications for the same. *Sadyo Vamana* (~immediate induced emesis) was planned for him (Table 1) followed by Ayurvedic drugs for a duration of fifteen days followed by repeat test.

### 6. Instructions for the patient

Before beginning the treatment, the patient was advised to make the following preparations to ensure easy commencement.

1. To consume milk with jaggery the night before *Vamana*.
2. To sleep early on the previous night and have 6-7 hours of sleep.
3. To wake up early in the morning for *Vamana*.
4. To prepare warm milk about 1 L, *Yashtimadhu phanta* (concoction) 2 L and *Lavanodaka* (saline water) 2 L early in the morning, in separate utensils.
5. He was informed about the procedure in detail, the complications which can take place during the procedure, and informed consent was obtained for *Vamana*.

6. To carry a pulse oximeter and a digital blood pressure machine for their measurements during and after the procedure.

*Vamana* was commenced at 6 am in the morning. Due to the infectious nature of the disease, the procedure was conducted through video calling. The patient was advised to take all necessary arrangements, like utensils, glasses for intake of *Yashtimadhu* concoction (prepared from 50 g of licorice powder in 1 L warm water) and *Lavanodaka* (lukewarm saline water prepared with rock salt), and a tub for collection of vomitus. He was asked to sit on a comfortable chair of knee height.

Regular monitoring of Oxygen level and pulse rate during the procedure was done using a pulse oximeter. Firstly, he was asked to drink milk up to maximum capacity (*Akanthapurana*). This was vomited out after taking about 800 ml (four glasses of milk each measuring about 200 ml). 800 ml of milk was enough a quantity to induce emesis. There was no specific emetic drug used in this procedure. All the drugs used were to support emesis. After this, he was administered a *Yashtimadhu* concoction of about 800 ml which was also vomited out easily. Thereafter, the patient was administered *Lavanodaka* (saline water) about 900 ml twice which also resulted in two bouts of vomiting. In the earlier two bouts, vomitus was more viscid and had more mucus relatively than the last two bouts. In between the bouts of vomiting, pulse and oxygen levels were repeatedly measured (Table 1). In between two *Vegas*, a period of rest was advised along with deep breathing for about a minute to regulate the heart rate to normal which normally elevates after each *Vega* during *Vamana*. The numbers of *Vegas* (forceful expulsion of vomitus) present was four. The procedure was discontinued when symptoms such as feeling of lightness in abdominal and thoracic regions, and lightheadedness were reported by the patient. The patient also reported a sensation of bitter taste which could be considered as a feature of *Pittanta Vamana*, so the treatment was discontinued at that point considering the presence of adequate features resembling markers of endpoint for *Vamana Karma*.

On the basis of number of *Vegas* present, patient was advised to follow *Samsarjana Krama* [2] (specific dietary regimen) for three

**Table 1**  
*Vamana Karma.*

| Time               | Input  | Output                                | Observation  |
|--------------------|--|---------------------------------------|--|
| 09.08.2020<br>6 am | Warm milk 800 ml (approx.)<br>taken by the patient | 1 <i>Vega</i><br>(a bout of vomiting) | Expulsion of excessive mucous along with milk in the vomitus<br>Pulse rate 110/min.<br>SpO <sub>2</sub> 98%<br>Advised for deep breathing for about a minute before the next intake.<br>Mild heaviness in the head and abdomen was reported.   |
| 6.12 am            | <i>Yashtimadhu Phanta</i> 800 ml (approx.)         | 1 <i>Vega</i>                         | Mucous present with vomitus.<br>Pulse rate 102/min.<br>SpO <sub>2</sub> 97%  |
| 6.26 am            | <i>Lavanodaka</i> 900 ml                           | 1 <i>Vega</i>                         | More Clear fluid in vomitus,<br>Salty taste of mouth reported<br>Pulse rate 101/min.<br>SpO <sub>2</sub> 98%<br>Relief in the heaviness of head,<br>Lightness in abdomen and thoracic region present<br>No new complaints  |
| 6.35 am            | <i>Lavanodaka</i> 800 ml approx.                   | 1 <i>Vega</i>                         | Clear fluid in vomitus,<br>Bitter taste of mouth,<br>Pulse rate 105/min.<br>SpO <sub>2</sub> 98%<br>Feeling of wellness, lightness present.<br>No complaint of heaviness in the chest or breathing difficulty was reported.<br>No further fluid intake advised.<br>Procedure stopped considering features of <i>Samyak Vamana</i><br>Patient was advised to gargle with <i>Lavanodaka</i> ,<br>Rinse his face with water and gently massage his palms and soles.<br>Advised to take proper rest and follow <i>Samsarjana Krama</i> for three days. |

days (*Si.1/13*) [2]. Rice gruel was advised for evening diet on the day of *Vamana*. Next day he consumed semi liquid rice gruel in afternoon and soup prepared from green gram in evening (*Si.2/13*) [2]. Semi solid food in the form of semi solid meal prepared from rice and green gram was consumed on third day. After third day, patient was allowed to consume green vegetables and other light and easily digestible food. He was advised to completely refrain from cold water intake, curd, and, refrigerated, processed and fast food items.

From the second day of *Vamana*, the patient was advised to take *Vyaghryadi Kashaya* [3] in a dose of 50 ml empty stomach, twice daily for a period of ten days.

## 7. Timeline

The whole case is being summarized in a tabular form involving initiation of symptoms, their progression, the clinical management and the recovery phase including clearance of symptoms and gradually returning to the normal routine after testing negative for RTPCR (Table 2).

## 8. Outcome

Immediately after *Vamana*, the patient reported improvement in nasal congestion and heaviness in the head. There was a feeling of general well-being and lightness in the abdomen after *Vamana*. Fever was not reported the next day. The appetite also improved significantly after *Samsarjana Krama*. No complications were reported by the patient after *Vamana* or *Samsarjana*.

Almost all the symptoms were resolved gradually within a period of 7 days except for the sense of smell. Recovery in sense of smell was reported by the patient on the 13th day. During the period of treatment, the patient was following strict isolation and physical distancing from other family members.

Complete recovery in symptoms was observed on the 13th day from the initiation of symptoms. The patient tested negative for Corona virus in the RTPCR test on the 17th day.

## 9. Follow up

Follow-up was taken twice, first after one month of treatment and then again after one year. He stayed healthy without suffering from any known complications of Covid-19 infection like weakness or decreased immunity. There was no history of any other infection reported by the patient even during the second wave of the pandemic which was rather severe in India.

## 10. Discussion

Based on the symptoms and acute onset, the disease can be related to *Nava-Jwara* (*Chi. 1/61*) [3] (acute onset fever) or *Dushta-Pratishyaya* (*Chi. 1/38*) [3] (nasal congestion) in Ayurveda. For *Nava-Jwara* and *Pratishyaya*, *Vamana Karma* has been advised classically owing to the involvement of *Kapha Dosha*. *Agnimandya* (~impairment in digestive fire) has been considered as the main reason for *Nava-Jwara* and *Dushta-Pratishyaya*.

The probable *samprapti* (~pathogenesis) of the disease involves *abhishangaja jwara* (*Chi. 26/109*) [1] wherein after contracting the infection, the site of *Kapha dosha* i.e *urah Pradesh* (~the thoracic region) is affected which leads to *Kapha prakopa* (~aggravation). This leads to *pranavaha srotasa avarodha* (~obstruction of respiratory tract), *Mandagni* (~diminished digestive calibre) and *swedavaha srotasa avrodha* (~obstruction of sweat channels). This eventually leads to obstruction of *pranavaha* and *rasavaha srotasa*, ultimately causing symptoms like fever, nasal congestion, loss of

sense of smell, sore throat and other respiratory symptoms like breathlessness and difficulty in breathing when disease progresses.

The rationale for *Vamana* in the management is elimination of excessive *Kapha dosha* adequately and *Vyaghryadi kashaya* as *shamana* of the remnant *Kapha* along with suppression of the deranged *Vayu*.

*Langhana* is the choice of treatment in Ayurveda (*Chi. 1/1*) [3] which incorporates four types of *Shodhana* [4] (~purification therapies) among which *Vamana* is also included. Considering the *Kapha* predominance in *Prakruti* of the patient and in the clinical features presented, *Vamana* seemed to be the most appropriate intervention. *Vamana* was planned and prior to its execution, the patient was counselled regarding the procedure. Due to the aggravated state of biohumours, *Snehapana* (intake of unctuous substance like *Ghee* or oil which is being done before classical *Vamana Karma*) was not done. The patient was advised to take milk with jaggery on the night before.

*Vyaghryadi Kashaya* is indicated in *Jwara* management because the contents have a suppressing effect on *Kapha* and *Vata Dosha*. *Vyaghri* (*Solanum xanthocarpum* Schrad. & Wendl) is said to possess anti-inflammatory and anti-tussive properties [5]. This is efficacious in respiratory illnesses due to its mucociliary stimulatory action removing excessive mucous [6], relieving breathlessness due to its broncho-dilatory effects [7]. *Guduchi* (*Tinospora cordifolia* Thunb.) is known for its antipyretic, anti-inflammatory, anti-allergic actions. It is also known to possess immune-modulatory actions (*Su.4/9*) [4].

*Shunthi* (*Zingiber officinale* Roscoe) is one of the most potent drugs for *Ama Pachana* (~digestion of undigested food material). It is useful in headaches, abdominal pain and has digestive and carminative actions [8] It is also useful in a cold, hoarse voice and is a good appetizer. Recent studies have reported its anti-inflammatory effects [9].

*Pippali* (*Piper longum* L.) was used in the form of fine powder in a dose of 500 mg with the *Kashaya*. It is known to act as a bio enhancer, increases the bio-availability of drugs by several folds, due to the presence of piperine [10]. The action of *Pippali* is the alleviation of *Kapha* and *Vata* which was the prime cause of pathology [11].

Thus the decoction used after *Vamana* possessed properties of digestive, appetizing, anti-inflammatory, anti-tussive, mucolytic, antipyretic and immuno-modulatory actions.

Dysosmia (altered smell perception) and dysgeusia (altered perception of taste) are common features of COVID-19 infection. There have been various studies suggesting the Corona virus' effects on the CNS [12]. Routes intended for CNS infection are peripheral Trigeminal or Olfactory nerves following intranasal inoculation. The observations from studies on rodents indicate that these viruses cause demyelination and stimulate T cell-mediated autoimmune reactions against CNS antigens producing the curious question about relationship of Corona viruses and neurological infections in humans [13].

The absence of sensation of smell could be due to deranged *Prana Vayu* (*Su.12/8*) [4]. *Avarana* (~superimposition) of *Kapha* over *Vayu* leads to improper functioning of *Prana Vayu*, which could be the reason for the lack of sensation of smell. Through *Vamana* and *Vyaghryadi Kashaya*, removal of this *avarana* was the study objective as it would be able to help resuming normal functioning of *Vayu*.

### 10.1. Significance of *Langhana* and *Vamana*

*Langhana* is the basic modality of treatment in any morbidity having a predominance of *Kapha Dosha*, for correction of *Agni*. Considering the disease manifestation as *Nava-Jwara* and

**Table 2**  
Series of events.

| Day     | Date       | Clinical progression  | Management   |
|---------|------------|---|--|
| 1       | 04.08.2020 | Mild loss of sense of smell was observed  | None   |
| 2       | 05.08.2020 | Body ache<br>Malaise<br>Mild fever  | Patient took Azithromycin 500 mg<br>Paracetamol 650 mg<br>Without any medical advice   |
| 3       | 06.08.2020 | Body ache<br>Nasal congestion<br>Sore throat<br>Fever 100.4 °F  | Continued Paracetamol 650 mg and Azithromycin 500 mg<br>Got tested for COVID-19  |
| 4       | 07.08.2020 | Patient tested positive for COVID-19.<br>Symptoms persist<br>Fever 99.8 °F  | patient opted for home isolation at his own responsibility.<br>Discontinued Paracetamol and Azithromycin<br>Consulted Ayurveda physician.  |
| 6       | 09.08.2020 | Mild fever (99.6 °F)<br>Nasal congestion<br>sore throat<br>heaviness in head<br>No sense of smell                             | <i>Sadyo Vamana</i> was performed early morning followed by <i>Samsarjana Krama</i> for three days.  |
| 7       | 10.08.2020 | Temperature 98.7 °F<br>Relief in nasal congestion and heaviness in head.<br>Mild sore throat present<br>Sense of smell absent | <i>Vyaghryadi Kashaya</i> 50 ml was prescribed twice daily for 10 days<br>Garlic 1 gm was advised with warm water once a day for ten days.<br>Saline Gargling was advised twice daily for ten days,<br>Steam inhalation advised for ten days twice daily<br>Regular Warm water intake was advised for ten days |
| 8 to 12 |            | Afebrile, temperature 97.8 °F<br>No headache or body ache<br>Mild sore throat<br>Loss of smell persisting                     | On 4th day after <i>Vamana</i> , the patient was advised light solid and easily digestible food.<br>Fruits like pomegranate, papaya and dry fruits like Grapes were allowed.   |
| 13      | 17.08.2020 | Recovered sense of smell  | <i>Vyaghryadi Kashaya</i> 50 ml was advised twice daily  |
| 14–15   | 18.08.2020 | sense of smell was recovered<br>No fever, nasal congestion (reduced?)<br>Improved appetite<br>Improved sore throat            | <i>Vyaghryadi Kashaya</i> 50 ml continued twice daily  |
| 16      | 20.08.2020 | Almost completely recovered<br>No fever, sore throat, headache or bodyache<br>Feeling of wellness<br>Regular appetite         | <i>Kashaya</i> extended for 5 days but dosage reduced to once daily  |
| 16      | 21.08.2020 | Repeat RTPCR done<br>no symptoms reported   | 50 ml <i>Kashaya</i> advised once daily for 5 days   |
| 17      | 22.08.2020 | Tested negative for RTPCR   | Garlic 1 gm once daily for five more days.<br>Advised to continue warm water,<br>Steam inhalation and saline gargling once daily<br>Home isolation continued for 7 more days.<br><i>Vyaghryadi Kashaya</i> 50 ml advised once daily  |
| 18      | 23.08.2020 | Improved general health condition.<br>No complain of weakness or other symptoms.  |  |
| 21      | 25.08.2020 | No complaints<br>Good appetite  | All medicines were discontinued,<br>Asked to consumed healthy diet as advised, warm and easily digestible food, saline gargling, warm water.<br>Allowed to resume his normal official duties.  |

*Pratishyaya*, the primary objective of treatment was the restoration of deranged *Agni* (digestive fire). *Vamana* was planned instead of other *Langhana* procedures, owing to the condition of *Nava jwara* and considering the disease as *amashaya samuttha vyadhi* (~having disease origin in the upper abdominal region). Besides, the sites which are chiefly affected are *amashaya* and *urah pradesh* (after infection, lungs are the chief site of infection). Therefore, *Vamana* was the ideal treatment choice for providing *shodhana* of *kapha* leading to minimized complications and minimum progression of disease.

*Vamana* is one of the principle *Shodhana* procedures that provides *Langhana* (*Si.6/23*) [2] as well as correction of *Agni* by eliminating excessive *Kapha Dosha* from *Amashaya*. This elimination of excessive *Kapha Dosha* by *Vamana* enables the removal of cover of *Kapha* over *Agni* thus ensuring proper repairing of the impaired digestive fire (*Si. 6/22*) [2]. However, immediately after *Vamana*, there is a general condition of *Agnimandya* (~temporary deterioration of digestive caliber) hence regular diet is not advised to the patient immediately. *Agni* has to be gradually raised to normal status. For this, a specific diet regimen known as *Samsarjana Krama* is planned to ensure gradual improvement of digestive fire (*Si. 1/13*)

[2]. *Peya* (rice gruel) was administered to the patient on the day of *Vamana* in the evening. It has the properties of improving *Agni* (*Su. 27/250*) [4] (~digestive caliber). *Vilepi* was given on the second day morning followed by *Yusha* (prepared from green gram) in the evening. The fourth diet advised was semi-solid prepared from green gram and rice. This specific diet pattern helped in gradually improving the appetite of the patient and by the time *Samsarjana* was completed most of the prominent symptoms were resolved.

*Vyaghryadi Kashaya* intake also helped in maintaining *Agni* and ensured that the results obtained after *Vamana* did not relapse. Clinically, more improvement was noticed as the days passed by. None of the symptoms worsened during the course of treatment.

#### 10.2. Probable mode of action of *Vamana Karma*

*Vamana* or induced medicated emesis is indicated for the elimination of *Dosha* through the oral cavity which is the nearest route for *Dosha* located in the thoracic and the upper abdominal regions. In conditions like fever, rhinitis, and morbidities involving the upper respiratory tract, it is stated that excessive morbid humors (*Doshas*) are located in the upper abdominal region and

thoracic region. For elimination of such morbid humors i.e. *Kapha*, *Vamana* is considered as the treatment modality of choice [14].

To induce vomiting, local and central stimulation is required. Local stimulation is caused by abdominal distention which tends to recoil with force resulting in forceful elimination of abdominal contents. Central stimulation is done by stimulating the chemoreceptor trigger zone by administration of certain drugs like *Madanaphala* (*Randia dumetorum* lam.). Drugs like *Yashtimadhu* (*Glycyrrhiza glabra* Linn.) and *Lavanodaka* are administered in larger quantities to achieve sufficient abdominal distension followed by recoil resulting into forceful ejection of abdominal contents in the form of vomiting or emesis. Here the drugs procured were mild instigating peripheral stimulation and producing adequate abdominal distension. This led to adequate elimination of *Kapha* from the upper gastrointestinal tract.

In this study, *Yashtimadhu* and *Lavanodaka* were used which are stated to help induce vomiting. *Yashtimadhu* has a soothing action on the throat therefore there are minimal chances of erosion during vomiting and hence minimizing any chances of bleeding. It has been mentioned under *Vamanopaga Mahakashaya* (drugs supporting emesis). *Lavanodaka* has been opted because of its mucolytic actions and here it was used to liquefy and remove excessive *Kapha* (*Su. 26/13*) [4] or mucous and eliminate it through oral route by vomiting. This removal of *Kapha* through *Vamana* helps in repairing digestive fire as excessive *Kapha* impedes it [15].

### 11. Limitations and special precautions

*Vamana* is a major *Panchakarma* procedure conducted with diligent observation and timely monitoring of vital parameters to avoid any complications due to vomiting. Patient was infected with COVID-19 and hence it was unsafe to conduct the procedure in person. Therefore the procedure was carried out through video conferencing, explaining him each and every step before and during the treatment. Regular monitoring of the vital parameters of the patient was conducted. A mild form of *Vamana Karma* was planned instead of going for a rigorous one. It was especially important to avoid any severe complications as the patient was not present in person for the procedure.

In classical *Vamana Karma*, *Snehapana* (oil or ghee) is administered to the patient for about three to seven days depending on the *Prakruti*, nature of disease, and *Koshtha* (nature of abdomen). This is done to saturate the body with *Sneha* and accumulate the *Dosha* (toxins), most of which are fat-soluble. After a day of massage and steam fomentation, *Vamana* is conducted in a controlled manner by administration of drugs that have been advocated as inducers of emesis. In this study, *Snehapana* was not conducted as it was a sub-acute condition featuring symptoms like fever and nasal congestion, wherein *Snehapana* is contraindicated. Keeping these things in consideration, immediate *Vamana* was planned for the patient.

### 12. Significance of this study

Ayurveda has always emphasized on the personalized approach to a patient wherein along with the *Vikruti* (~clinical manifestation of the disease), *Prakruti* of the patient is also very important in any treatment (*Vi. 8/94*) [15] It is stated that each individual is different and has different physical and mental attributes. Response to particular morbidity would be different in every individual. This gives importance to the individual's physical and mental traits according to which the management of each individual varies as per his *Prakruti*. Therefore if a prior understanding of these attributes is ensured and treatment is planned as per these considerations, the prognosis could be much better. In this case report, patient was

having *Kapha* predominant *Prakruti*, *Vamana* was planned for him and it yielded significant improvement in results. Along with the clinical manifestations of a disease, *Desha* (~place), *Kala* (~season) and patients' *Prakruti* should also be given adequate importance while planning a management protocol (*Vi.8/95*) [15].

This management protocol yielded effective results in this patient by controlling the symptomatic reprogression of the disease to severe stages, thereby minimizing the chances of progression of infection to complications. This also helped in providing effective control over the probability of further spread to other family members thereby restricting the community spread as well. This can be a significant finding for control of COVID-19 pandemic, which has a rapid transition time. Future case studies may include *sadyo Vamana* in Covid-19 management in the patients with good strength and *Satva*, which may lead to minimum complications and better prognosis.

### 13. Conclusion

The outcome of this case study is encouraging enough to conduct more work on COVID-19 involving Ayurveda and specifically considering the personalized approach for patients. The most significant finding in this study was an early resolution of all the major symptoms and negative RTPCR detection. This was also important because symptoms did not progress to severe stages and patient's family members were not infected through him because of his early recovery thus restricting any community spread. This is important to pave the way to a more specific *prakruti* based approach to morbidity which Ayurveda has emphasized upon.

### Informed consent

Written informed consent was provided by the patient.

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### Conflict of interest

None.

### Author contributions

**Adil Rais:** Conceptualization, Methodology, Investigation, Writing - original draft. **Tarun kumar:** Writing - original draft. **Rajdeep Rao:** Writing - original draft. **Rajkala P Patil:** Conceptualization, Writing - review and editing. **R Galib:** Conceptualization, Writing - review and editing. **Anup B Thakar:** Supervision. **Devendra S Negi:** Visualization, Validation, Supervision.

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