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Successful treatment of a COVID-19 case with *Costus speciosus* (Koen ex. Retz.) Sm., a traditional medicine

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Abstract

The use of folk medicine for treating human diseases is as old as man. Folk medicine is used as alternative therapy for several diseases. Although, many medicinal plants are very useful in the treatment of diseases, no plant has so far been effective in the treatment of coronavirus (COVID-19). *Costus speciosus* (Koen ex. Retz.) Sm. is considered as one of the most important medicinal plants globally known and used for treating diseases. Coronavirus (COVID-19) originated in Wuhan, Hubei Province, China in December 2019, and has since spread all over the world, resulting in thousands of deaths. Due to the fact that there is yet no cure for this viral disease, attention has shifted to folk medicine. This study reports the use of *C. speciosus* for treatment of a patient with COVID-19. It describes the identification, diagnosis, and management of one case of COVID-19, the resultant therapeutic effects, and the need for further clinical studies.

1. Introduction

1.1 Geographical distribution of *C. speciosus*

Costus speciosus (Koen ex. Retz.) Sm., is indigenous to India, Pakistan and China, where it grows in the Himalaya region at altitudes of 2500-3500 m (Zahara *et al.*, 2014; El-Far *et al.*, 2018). *C. speciosus* is considered as one of the oldest Indian herbs belonging to the ginger family, and it has been used since ancient times in the treatment of many ailments (Polito *et al.*, 2016; Abdeiwahab *et al.*, 2019). The plant is yellow or light brown in color. Studies have reported that the roots of *C. speciosus* have antibacterial, anti-spasmodic, health-enhancing, gas-repellent, blood pressure-lowering and digestion-enhancing properties (Polito *et al.*, 2016; Abdeiwahab *et al.*, 2019; Sari *et al.*, 2018; Alqethami *et al.*, 2020).

1.2 Novel coronavirus (COVID-19)

On December 31, 2019, the Regional Office of the World Health Organization in China published information on the presence of an unknown disease which was rapidly spreading in Wuhan, Hubei Province, China (Yuxi *et al.*, 2020; Dzieciatkowski *et al.*, 2020). The clinical presentation of severe acute respiratory syndrome coronavirus disease (SARS-CoV-2) resembles that of viral pneumonia. On January 7, 2020, a new virus from the coronavirus species was identified as the cause of these symptoms (Ang *et al.*, 2020; Kumar *et al.*, 2018). It was called COVID-19, and it produces very adverse effects on humans (Rebecca 2020; Tong *et al.*, 2020). Through,

genetic sequencing, the virus which infects the respiratory system, was identified to be similar to the coronavirus that caused the Middle East Respiratory Syndrome (SARS) which killed hundreds of people all over the world in 2002. These viruses are zoonotic, *i.e.*, they are transmitted from animals such as camels to humans. However, there are other strains that infect animals without being transmitted to humans. The virus affects the respiratory system of humans and animals. The typical symptoms of COVID-19 are fever, cough, and shortness of breath. Sometimes, the infection may develop into pneumonia, and may cause severe complications in people with weakened immune systems, elderly people and people with chronic diseases such as cancer, diabetes, and chronic lung diseases. Although, the means of transmission of the virus amongst humans is not yet clear, it is believed that some of the most important ways of transmission are coughing and sneezing which result in viral transfer through infected droplets. Scientists believe that the danger of COVID-19 lies in the possibility of its being wide spread across the world due to travel, tourism, pilgrimage, and exposure to animals. Indeed, this has happened, for COVID-19 has now spread throughout the globe, leading to loss of hundreds of thousands of lives. The dire situation is compounded by lack of a vaccine for containing the virus. Thus, there is need for increased awareness and proper personal hygiene. Governments have focused on methods of prevention such as washing and sterilizing of hands, as well as wearing of masks and gloves, staying indoors, and minimizing going out, except in extreme necessity. Due to lack of vaccine for COVID-19, and with the presence of many deadly infections in Saudi Arabia, people have resorted to using traditional herbs, the most important of which is *C. speciosus*. Studies have demonstrated that *C. speciosus* enhances immunity in humans due to its beneficial phytochemical composition (Picanco *et al.*, 2016; Benedetto *et al.*, 2019; Tong *et al.*, 2020).

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2. Materials and Methods

This research involved the use of the *C. speciosus* for the treatment of COVID-19 disease. We used a descriptive approach to present the condition of a COVID-19-infected person, the treatment, contacts with his family, and a review of the results of treatment.

2.1 Plant material

The rhizome of *C. speciosus* was obtained from a herbal market in MADINH region, Saudi Arabia.

2.2. Description of the COVID-19 case

A 46-year-old man contracted COVID-19 due to contact with another person who had some chronic diseases such as asthma and heart problems which were exacerbated by smoking. The symptoms presented by the patient were high temperature (38 to 39°C) and lack of appetite. His condition worsened within days, resulting in inability to sleep due to sleep apnea, which further complicated his situation.

2.3 *C. speciosus*

Medicinal plants have been considered as important resources for the discovery of therapeutic agents for infectious diseases. *C. speciosus* is an important medicinal plant found in India and some other parts of the world. It has been extensively used in folk medicine. The plant grows to a height of 1½ meters, and it has leaves, flowers, and stem. The part of *C. speciosus* used in the treatment of the COVID-19 patient in this study was the root properties (Sari *et al.*, 2018; Alqethami *et al.*, 2020).

2.4 Preparation *C. speciosus*

A small spoonful of *C. speciosus* powder was added to warm (not boiling) water in a clean glass, and the patient drank the bitter but acceptable mixture 3 times daily, *i.e.*, after breakfast, lunch and dinner. The drug administration was continued until the symptoms of infection disappeared.

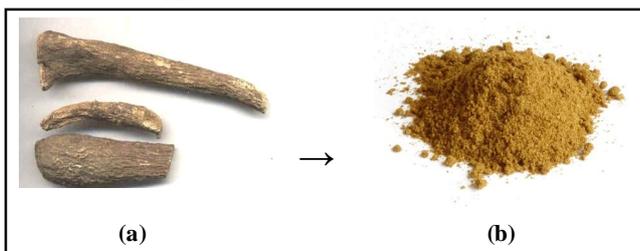


Figure: *C. speciosus* (a) Root and (b) Root power.

3. Results and Discussion

On the fifth day after infection with the virus, the patient had a high temperature and cough, in addition to general body fatigue. After 8 days of the infection, the patient experienced shortness of breath, especially during sleep. However, with intake of the drug, the patient initially felt a gradual improvement, such as good breathing during sleep and reduced body temperature, although he was still coughing. With continued intake of the *Indian premium* extract, a great improvement occurred in the patient's health. He recovered his appetite, the body temperature decreased further, and the cough became moderate. After 5 days of drinking the *Indian premium* extract, the patient recovered fully, and all the symptoms he felt at the beginning of the COVID-19 infection disappeared.

The patient was living with his family of 3 sons, 5 daughters and his wife. The entire family lived in an apartment consisting of 4 rooms, and they were in contact with the COVID-19 patient all the while. They all drank the *Indian premium* extract. Surprisingly, none of them came down with COVID-19, indicating that the *Indian premium* extract exerted both preventive and curative effects on COVID-19.

4. Conclusion

The results of the present study have demonstrated the significance of understanding the *Indian premium* extract and its effect on COVID-19 through studying an infected person in contact with his family. The extract produced a curative effect on the patient and protected his exposed family members from getting infected. Therefore, it is important to carry out more research on this plant, so as to use it as a readily available, affordable and reliable traditional medicine for COVID-19 treatment in Saudi Arabia and other parts of the world.

Conflict of interest

The author declares no conflicts of interest relevant to this article.

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