



Correspondence

A confirmed case of COVID-19 among the first three from Kerala, India

Sir,

Several cases of pneumonia of unknown aetiology were reported in Wuhan in Hubei province of People's Republic of China in December 2019 in people mostly associated with the Huanan seafood wholesale market¹⁻⁴. The outbreak was confirmed by the Chinese Center for Disease Control and Prevention when the throat swabs of patients were analysed. This was found to be caused by a novel coronavirus (CoV) by deep sequencing analysis and was first named by the WHO as 2019-nCoV and later renamed to COVID-19 on February 11, 2020^{5,6}. CoVs are enveloped, non-segmented, positive-sense RNA viruses belonging to the family *Coronaviridae* and the order *Nidovirales* and broadly distributed in humans and other mammals that cause illness ranging from the common cold to more severe diseases such as Middle East respiratory syndrome (MERS)-CoV and severe acute respiratory syndrome (SARS)-CoV. WHO declared the 2019-nCoV outbreak as a Public Health Emergency of International Concern (PHEIC) on January 30, 2020^{7,8}. The first case of COVID-19 in Kasaragod district of Kerala was confirmed on February 3, 2020. This report describes the features of this case and also documents the contact tracing activities from the district.

A 23 yr old male medical student studying at the Wuhan University, China, started his journey on January 22, 2020 and reached Kasaragod on January 27 after multiple halts following multiple modes of conveyance. He started the journey from Wuhan University by a taxi on January 22 to the railway station and boarded a bullet train on the same day and reached Guangzhou on January 23 and stayed there along with 16 other students from India up to January 25. He travelled from Guangzhou to Kolkata by flight on January 25 and reached Kolkata about two hours later. He then travelled from Kolkata by

flight and reached Bengaluru on the same day. From there, he took a taxi cab and reached the hotel room at Bengaluru and stayed there till January 26. He travelled from Bengaluru by flight on January 26 and reached Cochin on the same day. He took a taxi from Cochin airport to Aluva railway station and boarded the sleeper compartment of a train to Kasaragod from Aluva railway station on January 27. He deboarded at Angamaly station due to non-availability of berth. From Angamaly station, he took an autorickshaw and reached a hotel and stayed there till January 27. He then took a bus from the hotel to Aluva railway station and boarded the train for Kanhangad. From Kanhangad railway station, he travelled in a private vehicle along with two other people and reached home the on the night of January 27. He wore protective masks from Wuhan till Kolkata but not thereafter. He contacted the district corona control centre on January 28, and informed about his arrival.

He developed mild upper respiratory tract infection on January 30 and was admitted at the District Hospital Kasaragod on January 31. On examination, the patient was afebrile, conscious and oriented, with no pallor, icterus, cyanosis, clubbing, lymphadenopathy or oedema. Blood pressure was 118/78 mm of Hg with regular pulse rate of 88/min and respiratory rate of 14/min. Cardiovascular and respiratory systems were within normal limits. Throat examination revealed mild congestion without tonsillar enlargement or any membranes. Throat swab was taken for respiratory viruses, and he was admitted in an isolation room. He was empirically put on tablet azithromycin and capsule oseltamivir along with antihistaminic and multivitamins. All blood investigations (complete blood count, liver function test, renal function test and blood sugar) were within normal limits on the day of admission. A medical board was constituted with specialists from general medicine, otorhinolaryngology, psychiatry, pulmonology and neurology for expert management

of the patient. On the second day of admission, the sore throat and nasal congestion decreased, and all the other systems were within normal limits. On the third day, the symptoms subsided with no new complaints. The throat swab report came positive for SARS-CoV-2 on February 3, from the ICMR-National Institute of Virology, Pune. The fourth and fifth throat swabs taken on February 12 and 13 were found to be negative. The patient was discharged from the hospital on February 16, after obtaining concurrence from the medical board. The patient was put on strict room quarantine at home for 12 more days. Strict monitoring for symptoms was done over phone by the field health workers of the nearest peripheral health institution. Home quarantine was completed on February 28 after completing 28 days in quarantine.

Surveillance and contact tracing: As the positive case travelled from China to Kasaragod using multiple modalities with multiple halts, contact tracing was cumbersome. The total number of primary and secondary contacts was estimated to be 189 and 305, respectively. During the flight and train travels, individuals seated three rows in front and back of the seat of positive case were categorized as high-risk contacts. The cabin crew members in the airplane and occupants of the exit row seats in train were also added into this group.

Of the 189 primary contacts, 120 were in flight, 25 in train, 26 in hospital, 16 in community and two were household contacts. Among the primary contacts in the flight and train, 21 were from outside the country, while 28 were from outside the State. Details of these primary and secondary contacts outside the State were shared with the concerned district, State and central surveillance units for further follow up (Table).

Table. Number and category of primary and secondary contacts	
Primary contacts	189
Outside the district	37
Outside the State	37
Outside the country	21
Total primary contacts actively followed up from the district	94
Secondary contacts (inside district)	305
Symptomatic contacts	0

The contacts within the State were telephonically followed up daily from the district Corona Control Cell at Kasaragod for any symptoms. None of the primary or secondary contacts developed any symptoms during the surveillance period. However, nine asymptomatic high-risk contacts were tested to rule out the chance of occurrence of asymptomatic positive cases and were all found to be negative.

Financial support & sponsorship: None.

Conflicts of Interest: None.

**Raman Swathy Vaman^{1*},
Mathew J. Valampampil², A.V. Ramdas²,
A. T. Manoj², Basil Varghese³ & Flory Joseph²**
¹National Health Mission, ²District Medical Office, Kasaragod 671 315 & ³Department of Community Medicine, Government Medical College, Kannur 670 503, Kerala, India
 *For correspondence:
 ramanvaathapi@gmail.com

References

- World Health Organization. *Pneumonia of unknown cause – China 2020*. Available from: <https://www.who.int/csr/don/05-january-2020-pneumonia-of-unknown-cause-china/en/>, accessed on May 20, 2020.
- Lu H, Stratton CW, Tang YW. Outbreak of pneumonia of unknown etiology in Wuhan, China: The mystery and the miracle. *J Med Virol* 2020; 92 : 401-2.
- Hui DS, Azhar EI, Madani TA, Ntoumi F, Kock R, Dar O, *et al*. The continuing 2019nCoV epidemic threat of novel coronaviruses to global health the latest 2019 novel coronavirus outbreak in Wuhan, China. *Int J Infect Dis* 2020; 91 : 264-6.
- Huang C, Wang Y, Li X, Ren L, Zhao J, Hu Y, *et al*. Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China. *Lancet* 2020; 395 : 497-506.
- World Health Organization. *Novel coronavirus – China*. Available from: <https://www.who.int/csr/don/12-january-2020-novel-coronavirus-china/en/>, accessed on May 20, 2020.
- World Health Organization. *Novel Coronavirus (2019-nCoV): Situation report-22*. Geneva: WHO; 2020.
- World Health Organization. *Statement on the second meeting of the International Health Regulations (2005). Emergency Committee Regarding the Outbreak of Novel Coronavirus (2019-nCoV)*. Available from: [https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-\(2005\)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-\(2019-ncov\)](https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)), accessed on May 20, 2020.
- World Health Organization. *COVID -19 Situation Report 39*. Geneva: WHO; 2020.