



Correspondence

First confirmed case of COVID-19 infection in India: A case report

Sir,

Coronaviruses (CoV) are a large family of viruses 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)-CoV¹. On December 31, 2019, China informed the World Health Organization (WHO) about cases of pneumonia of unknown aetiology detected in Wuhan city, Hubei province of China. From December 31, 2019 to January 3, 2020, a total of 44 patients with pneumonia of unknown aetiology were reported to the WHO by the national authorities in China². During this period, the causal agent was not identified. The cases initially identified had a history of exposure to the Huanan Seafood Wholesale Market³. The most common clinical features of the early clinical cases from Wuhan, China, were fever (98.6%), fatigue (69.6%) and dry cough (59.4%)⁴. The second meeting of the Emergency Committee convened by the WHO Director-General under the International Health Regulations (2005) regarding the outbreak of novel coronavirus 2019 in the People's Republic of China on January 30, 2020, declared COVID-19 outbreak as Public Health Emergency of International Concern (PHEIC)⁵. As on February 17, 2020, except China, 25 other countries have been affected by COVID-19 outbreak with 70,635 confirmed cases and 1,772 deaths in China. Outside China, 794 cases were reported with three deaths⁶.

We present here the first case of COVID-19 infection reported in Kerala, India. On January 27, 2020, a 20 yr old female presented to the Emergency Department in General Hospital, Thrissur, Kerala, with a one-day history of dry cough and sore throat. There was no history of fever, rhinitis or shortness of breath. She disclosed that she had returned to Kerala from Wuhan city, China, on January 23, 2020 owing to COVID-19 outbreak situation there. She was asymptomatic between January 23 and 26. On the 27th

morning, she felt a mild sore throat and dry cough. She did not give a history of contact with a person suspected or confirmed with COVID-19 infection. She did not visit the Huanan Seafood Wholesale Market, however, she gave a history of travel from Wuhan to Kunming by train where she noticed people with respiratory symptoms in railway station and train. She received the instructions from the Kerala State authorities to visit a healthcare facility if she develops any symptoms because of the travel history to China.

In the Emergency department in General Hospital, she was afebrile with a pulse rate of 82/min, blood pressure 130/80 mmHg, temperature 98.5°F and oxygen saturation 96 per cent while the patient was breathing ambient air. Lung auscultation revealed normal breath sounds with no adventitious sounds. In view of her travel history from Wuhan, the district rapid response team decided to admit her in an isolation room which was designated for the corona epidemic. An oropharyngeal swab was obtained and was sent to the ICMR-National Institute of Virology (NIV), Pune, for the detection of viral respiratory pathogens on January 27, 2020. Three millilitres each of EDTA blood and plain blood samples were also collected and sent to NIV, Pune, where COVID-19 was diagnosed using real time reverse transcription PCR. Specimen collection was done on day 0 (admission) and every alternate day. Urine and stool samples were also sent for detailed evaluation. She was started on azithromycin (500 mg), cetirizine (10 mg) and saline gargle. Over the next three days, her symptoms improved.

Her oropharyngeal swab result was reported by the NIV, Pune, to District Control Cell on January 30, 2020 as positive for COVID-19 infection. The details of basic laboratory investigations done on days 3, 7 and 20 of illness are shown in the Table. On day 1 of illness, the total white blood cell count was towards the low normal side, but on days 5 and

Table. Clinical laboratory report of the patient

Measure	Days of illness			
	1	5	14	24
Haemoglobin (g/dl)	10.8	12.2	12.1	11.3
Total WBC count (cells/ μ l)	5300	7300	7400	8500
Differential count	Polymorphs-46 Lymphocytes-47 Monocytes-7	Polymorphs-47 Lymphocytes-42 Monocytes-11	Polymorphs-50 Lymphocytes-46 Monocytes-4	Polymorphs-56 Lymphocytes-36 Monocytes-8
Platelet count ($\times 10^6$ cells/ μ l)	2.88	3.6	3	3.9
ESR	13	44	33	80
Urine routine	Normal	Normal	Normal	Normal
Random blood sugar (mg/dl)	89	82	83	95
Blood urea (mg/dl)	22	14	14	14
Serum creatinine (mg/dl)	0.7	0.8	0.7	0.6
Serum sodium (mmol/l)	136	135	134	134
Serum potassium (mmol/l)	4.3	4.4	4.2	4.3
Total bilirubin (mg/dl)	0.7	0.4	0.5	0.4
Direct bilirubin (mg/dl)	0.2	0.2	0.2	0.2
Total protein (g/dl)	6.1	6.8	6.2	7.8
Serum albumin (g/dl)	3.9	4	3.4	4.8
Alanine aminotransferase (IU/l)	15	13	16	16
Aspartate aminotransferase (IU/l)	19	21	23	22
Alkaline phosphatase (IU/l)	113	110	116	150

WBC, white blood cell; ESR, erythrocyte sedimentation rate

20, the count showed a rise which was consistent with a viral infection. Erythrocyte sedimentation rate was highest on day 7. The rest of the investigations were normal. She was referred to the Government Medical College, Thrissur, Kerala on January 31, 2020, and was admitted in isolation block designated for corona infection. By this time, the outbreak monitoring unit of the institution had brought out a detailed policy regarding the standard operating procedures including infection control measures to be followed in the isolation block. On presentation, she had only mild sore throat and rhinitis. She was conscious, oriented, afebrile, with pulse rate 76/min, blood pressure 100/70 mmHg, respiratory rate 12/min and oxygen saturation 97 per cent in the ambient air. General examination revealed no significant findings. She was started on oseltamivir and symptomatic measures. She gradually improved over the three days and became asymptomatic on February 3, 2020 and became negative for COVID-19 infection on day 19 of her illness. The oropharyngeal swabs for diagnosis of COVID-19 infection were collected on days 1, 4, 5, 7 and every alternate day, *i.e.* days 9, 11, 13 and

so on after the onset of illness. The initial swabs remained positive till day 17 after which the swabs on days 19, 21 and 23 were negative and the patient was discharged. She was discharged from the hospital on February 20, 2020.

A detailed contact tracing was done by the Community Medicine department of the Government Medical College, Thrissur, with the District Health Authorities. Those identified were followed up for 28 days for any symptoms. All healthcare workers in the isolation block also were followed up for 14 days.

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