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Article in Respiratory Medicine Case Reports · April 2020

DOI: 10.1016/j.rmcr.2020.101068

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Case report

COVID-19: A case report from Bangladesh perspective

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A B S T R A C T

A 34-year-old man without any significant medical history or comorbidities, suddenly developed fever, and shortness of breath, thereby admitted to the emergency department of a tertiary care hospital, Dhaka, Bangladesh. He had neither a history of traveling to Coronavirus disease (COVID) prone areas nor a direct contact of COVID positive patients. His chest X-ray revealed ground-glass opacity in the right middle and lower zone of the lung. The first polymerase chain reaction (PCR) test on throat and nasal swabs for the COVID upon admission was negative. Based on the chest X-ray result, RT-PCR was done again resulted positive. The patient was primarily treated with chloroquine and azithromycin. On full recovery, he was discharged from the hospital on day 12, after two subsequent throat swab samples tested negative by PCR (24 hours apart). He was encouraged to maintain home quarantine for at least the next 14 days. SARS-CoV-2 RNA by swab remained negative and the blood sample shows the presence of antibody (both IgM and IgG) in his follow-up visit (after 7 days of hospital discharge).

1. Introduction

The current outbreak of novel Coronavirus (2019-nCoV) was first reported in Wuhan, China, on 31 December 2019. Since then, Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) has generated 1 696 588 confirmed cases of Coronavirus disease 2019 (COVID-19) including 105 952 deaths as of 12 April 2020 [1]. Due to an exponential spread in 213 countries, it was declared as a pandemic by the World Health Organization (WHO). Coronavirus is one of the major pathogens that primarily targets the human respiratory system [2]. Respiratory aerosol, droplets, and contact are considered the main routes of transmission. Currently, COVID-19 patients remain as the primary source of infection [3]. Early detection and correct diagnosis have become crucial to prevent the spread of infection. Polymerase chain reaction (PCR) is used to confirm the microbiological diagnosis [4]. We reported a case of a 34-year-old man, presented with sudden development of fever and breathing difficulty. Later, he was diagnosed with COVID-19 positive case by reverse-transcription–polymerase chain reaction (RT–PCR) assay from the COVID swab test.

2. Case report

The patient was a 34-year-old man without any significant medical history or comorbidities. On March 16 at 9:00 a.m., 2020, he had joined his duty with a history of 3 days runny nose followed by 2 days symptom-free. Same afternoon at 17:00, he suddenly developed fever

and shortness of breath and admitted to the emergency department of a tertiary care hospital, Dhaka, Bangladesh. On admission vital signs were as follows: blood pressure 105/70 mmHg, heart rate 92 beats/min, body temperature 38.2 °C, respiratory rate 16 breaths/min, and oxygen saturation on room air 96%. Besides, the COVID swab test for RT-PCR was negative. He had no history of sore throat, rhinorrhea, diarrhea, and cough. Moreover, he did not have any history of traveling to COVID prone areas or no history of direct contact of COVID positive patients.

The next day on 17 March at 00:10 a.m., he was moved to an isolated room (triage) suspected of COVID positive although the swab test found negative. He received supportive treatment. Laboratory test results did not reveal leukocytosis or leukocytopenia. Chest X-ray revealed ground-glass opacity in the right middle and lower zone of the lung. After seeing the chest X-ray, he became highly suspected of having COVID-19, and subsequently, the swab (nasal and throat) test for RT-PCR was done again in the afternoon where the result was positive. After that, he was treated with chloroquine and azithromycin, oxygen for hypoxia, and intravenous fluid for correction of low BP. After treatment with antibiotics, his fever and difficulty with breathing initially improved on 21 March. On 22 March, when fever and breathing difficulty continues to worsen, the patient was moved to the intensive care unit for better management where intubation was not needed.

On March 24, when his condition was stable, fever and breathing difficulty improved, the patient was shifted to the isolation ward. On full recovery, he was discharged from the hospital on March 27 after two subsequent throat swab samples tested negative by PCR (24 hours

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<https://doi.org/10.1016/j.rmcr.2020.101068>

Received 20 April 2020; Received in revised form 22 April 2020; Accepted 22 April 2020

Available online 24 April 2020

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Table 1
Physiological parameters of COVID-19 positive patient from admission to follow up.

Date from admission to follow up	Vital Signs				SPO ₂	Investigations		
	Blood Pressure (mm of Hg)	Heart rate/minute	Temperature	Respiratory rate/minute		COVID swab test	Blood test	Chest X-ray
16 March	105/70	92	38.2 °C	16	96%	Negative	–	–
17 March	90/60	90	38.5 °C	22	93%	Positive	Nothing significant	Ground-glass opacity
21 March	90/70	92	37.7 °C	22	94%	Negative	–	–
22 March	95/65	94	37.9 °C	24	93%	–	–	–
26 March	110/70	88	37.7 °C	20	97%	Negative	–	–
27 March	115/70	88	37.6 °C	18	99%	Negative	–	–
4 April	–	–	–	–	–	Negative	IgG and IgM positive	–

apart). He was recommended to maintain home quarantine for the next 14 days. SARS-CoV-2 RNA by swab remained negative and the blood sample shows a presence of antibody (both IgM and IgG) in his follow-up visit on 4 April 2020 (Table 1).

3. Discussion

The virus has overtaken the burden of morbidity and mortality around the world for its quick and efficient spreading nature [1]. The spectrum of this disease ranges from mild to severe, even life-threatening consequences. Some cases might progress rapidly to acute respiratory distress syndrome [5] and/or multiple organ function failure [6].

This case highlights that COVID-19 cannot be ruled out by the absence of respiratory symptoms in patients with significant travel or exposure history. In this case, RNA tests were negative at the first time. Moreover, no research has yet been accurately established in the contagious period of COVID-19. Besides, patients in convalescence as well as asymptomatic carriers may also be infectious.

SARS-CoV-2 RNA from respiratory tract specimens may be persistent or recurrently positive during the course of the disease. Furthermore, Angiotensin-converting enzyme-2 (ACE-2), identified as the cell entry receptor of SARS-CoV-2, was highly expressed in the lungs rather than in the upper respiratory tract [7,8]. The result of the SARS-CoV-2 RNA test more likely depends on the viral load of the specimen. Hence, there are chances of false negatives on occasion for oropharyngeal or nasopharyngeal swabs tests, affected by the site from where the sample was taken, the experience of the operator, and the actual quantity of virus. In that case, the Bronchoalveolar lavage fluid (BALF) specimen test can be considered for more accuracy with a consideration of higher exposure risk. In addition to the above specimens, SARS-CoV-2 RNA can be detected in a patient's sputum or stool swab by RT-PCR assay and blood for antibody test [8]. Combination with the SARS-CoV-2 RNA test and other detective methods such as a specific antigen, IgM antibody, or the next-generation sequencing, may also conducive to diagnosis.

4. Conclusion

Patients as an asymptomatic carrier may also be infectious. Moreover, with the possibility of recurrence, patients in convalescence should be regularly tested for infectivity assessment, and all discharged patients should follow a home quarantine for at least 14 days.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

Informed consent was obtained from the patient for publication of this case report.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.rmcr.2020.101068>.

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