Diagnosis, Management and Recovery of COVID 19: a Case Report in Bangladesh

Lutfa Akther[1], Shaila Shahnewaz[2], Dilruba Ferdous[1], and Md. Moyen Uddin PK[3]

[1]Dhaka Medical College and Hospital
[2]Affiliation not available
[3]University of Rajshahi

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Abstract

A 30-year-old man, who had no travel history to COVID-19 prone areas whereas he had the characteristics signs and symptoms of COVID-19. Chest X-ray and rRT-PCR revealed his confirmed COVID-19. This study recommends the early identification and management of COVID-19.

1 INTRODUCTION

COVID-19 (Coronavirus disease), caused by severe acute respiratory coronavirus 2 syndrome (SARS-CoV-2), was first identified in Wuhan , China, in December 2019(1). The World Health Organization declared a public health emergency of international concern regarding this global outbreak of pneumonia on 30 January 2020. Globally, as of 9:37am CEST, 30 May 2020, there have been 5,796,257 confirmed cases of COVID-19, including 362,483deaths, reported to WHO(2). In Bangladesh, as of 4 June 2020, there have been about 52000 confirmed cases of COVID-19 with about 700 deaths. The virus COVID-19 is primarily transmitted between humans through respiratory droplets and contact routes. Analysis of 75,465 COVID-19 cases in China has not reported airborne transmission(3-5). Early moderate signs occurred during the course of the disease offer a chance to early detect COVID-19. Fast identification and accurate treatment have been critical to avoiding the spread of infection(6, 7). At present, transcription polymerase chain reaction (RT-PCR) and real-time RT-PCR (rRT-PCR) are used to detect gene expressions of SARS CoV-2. There are three genes expression of SARS CoV-2 such as the RNA-dependent RNA polymerase (RdRp)/helicase (Hel), spike (S), and nucleocapsid (N) genes(8, 9). In Bangladesh, rRT-PCR is used to detect early COVID-19. After a week, point-of-care test kits for Ag and Ab is used to measure the protective level of plasma antibodies (IgM and IgG). In this study, we reported COVID-19 case of man who had no travel history to COVID-19 prone areas whereas he had the characteristics signs and symptoms of COVID-19. Chest X-ray and rRT-PCR revealed his confirmed COVID-19.

2 CASE HISTORY AND EXAMINATION

On April 13 at 11:30 AM, 2020, 30-year-old man came to a tertiary hospital, Dhaka, Bangladesh with significant signs and symptoms of COVID 19 and he had dry cough, muscle pain, fever, headache and shortness of breath. On the spot, he admitted and recorded the vital signs of COVID 19. The vital signs are shown in table 1. He had no history of direct contact of COVID 19 positive patients. On 14th April at 10:15 PM, he was confirmed COVID 19 using RT-PCR nasal swab test. The result of RNA detection of SARS CoV-2 was positive (Table 2). Same at 00:45 AM, h was moved to an isolated cabin and received supportive treatment.The next day on 15th April at 9:45 PM, he had got complete blood counts and results did not reveal leukocytopenia. Chest X-ray, on the other hand , showed ground-glass darkness in the center and lower

right of the lung (Table 2). The chest X-ray examination revealed that he was strongly suspected of having COVID-19. On 16 April at 10:30 a.m., he was inspired to re-test two samples (nasal and throat) for RT-PCR and the findings were positive. Same at 11:35 PM, he was treated with antibiotics (azithromycin^{500}), O_2 inhilation, intravenous fluid, paracetamol^{500}, Montelukast^{10}, and Fexofenadine^{120}. After 3 days of treatment (19th April, 2020), his fever and breathing difficulty improved and his condition was stable for 72 hours. On 23rd and 24th April, he was tested for SARS CoV-2 RNA with two subsequent throat swab samples respectively. The results of RT-PCR were negative (Table 2). On 25th April at 11:25 AM, he was discharged and recommemded to follow the rule-and-regulations of home quarantine for the next 14 days. On 1st May 2020, during his follow-up period, he was recommended to monitor the blood IgM and IgG against SARS CoV-2 antigen. Antibodies (IgM and IgG) were measured using point-of-care test and results showed the protective level of IgG (Table 2). The shapshot of COVID-19 is shown in figure 1.

3 DISCUSSION

Severe illness of COVID-19 begins after 7 days (approx.) of onset of symptoms. The most common symptoms of COVID-19 are fever, cough, tiredness, dyspnea, and diarrhea. (10, 11). Severe COVID-19 dyspnea triggers progressive development of respiratory failure, followed by severe hypoxemia. In fact, lymphopenia is normal to the majority of severe COVID-19(12, 13). The analysis of COVID-19 is made using real-time polymerase chain reaction methods, partial or complete viral genome sequencing, and plasma antibody level measurements. Early diagnosis of SARS CoV-2 is made by collecting, processing, and analyzing respiratory samples such as nasopharyngeal aspirate, combined (nasal and oral) swab samples, sputum, tracheal lavage fluid, or bronchoalveolar lavage fluid(14). SARS CoV-2 RNA is isolated from respiratory samples and measured utilizing rRT-PCR using the process of placing probes. COVID-19 is verified by viral RNA being found in the samples obtained(15). Within a week of the emergence of COVID-19 symtomps, plasma IgM and IgG tests are necessary to allow the infection to be easily detected. It showed that a patient had the safe amount of IgG within 14 days. Through the point-of-care test, it can identify the existence of serum antibodies within 15 minutes and can determine the level of the infection(16). CT findings are significant both for diagnosis and follow-up. To present, there has been no proof of successful treament for COVID-19. Antiviral medications and respiratory treatment are the primary medication used to cure the disorder. In addition, while several therapies have been suggested, quarantine is the only method that seems to be successful.

4 CONCLUSION

The most critical feature of treatment in this case study is close observation of the respiratory condition of the patient in order to assess if a ventilator is necessary. The patient is recommended to follow two weeks home quarantine (14d) with proper food management and two weeks allows them adequate opportunity to learn whether or not they can get infected and spread to other citizens.

CONFLICT-OF-INTEREST

The authors declared no conflict of interest.

AUTHOR CONTRIBUTION

Lutfa Akther, Shaila Sharmin Shahnewaz, and Dilruba Ferdous: They were involved in data collection and reviewed the manuscript. Md. Moyen Uddin Pk.: He did data analysis and wrote the manuscript.

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Figure 1 . The shapshot of COVID-19 of a 30-year-old man.

Patient Age/Sex

30y/Male

13–Apr

25–Apr

1–May

→ Symptoms

→ Admission

→ RT-PCR

→ IgM and IgG

→ Chest X-ray

→ Treatment

→ Discharge