

In-home Recovery of a Hospital Borne Non-Severe COVID-19: A Case Report of an Ear, Nose and Throat Specialist of Bangladesh

Rahima Akter¹, Rabeya Akter², Md Samun Sarker³, Mahabub Alam⁴

¹Department of Pharmacy, World University of Bangladesh, Bangladesh

²Department of Biochemistry and Molecular Biology, Jahangirnagar University, Bangladesh

³Antimicrobial Resistance Action Center (ARAC), Animal Health Research Division, Bangladesh Livestock Research Institute (BLRI), Bangladesh

⁴Department of Animal Science and Nutrition, Chattogram Veterinary and Animal Sciences University, Khulshi, Chattogram-4225, Bangladesh

Email address: ¹shipa.ju93@gmail.com, ²rabeyaakterripa@gmail.com, ³samuncvasu@gmail.com

Abstract— Background: Coronavirus disease 2019 (COVID-19) is an ongoing pandemic viral disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). **Case presentation:** A 42-year-old, male clinician (Ear, Nose and Throat: ENT specialist), suddenly developed fever, mild sore throat and cough, thereby isolated at home. As a clinician, he had a direct contact with COVID-19 patients. Oropharyngeal swabs from the subject tested positive for novel coronavirus (2019-nCoV) by quantitative reverse transcription polymerase chain reaction (RT-qPCR). Over the course of the disease the patient was remained mild symptomatic with weak fever, sore throat and mild difficulty in breathing. The reported COVID-19 patient had no major pre-existing health complication. He was treated with ivermectin, azithromycin and doxycycline. After 15 days of isolation and treatment, he was recovered. **Conclusion:** This case study suggest, home isolation and management could be an alternative to hospitalization of a non-severe COVID-19 patient with no pre-existing health complications.

Keywords— COVID-19, clinician, hospital borne, case report.

I. BACKGROUND

The whole world is going through an outbreak of 2019-nCoV, declared as public health emergency of international concern on January 30, 2020 by the World Health Organization (WHO) [1]. In Bangladesh, the first case was reported on 8 March, 2020 [2]. As of 12 September, 2020, the total number of confirmed cases were 334,762 in the country, with 4,628 deaths [3]. The 2019-nCoV has been claimed to be snatched the lives of around 50 clinicians and infected a total of 4000 in the country as of June 12, 2020. It is notable that health care providers get infected with Covid-19 even they have their personal protective equipment. Since, Covid-19 symptoms are overlapping with common flues and diseases of head, neck and throat the clinicians of this particular discipline are more frequently found to be infected with Covid-19 [4, 5]. The mild symptomatic and/or asymptomatic patients might play a vital role to disseminate this novel virus to clinicians when they visit to them. Moreover, asymptomatic carrier people might be responsible for the majority of the community transmissions [4]. Clinicians are more likely to be infected because of their direct contact with patient and virus contaminated instruments or surfaces when they work in the clinics [6]. To fight this COVID-19 pandemic situation, health care professionals need personal protective equipment and strict guidelines for dealing with the patients.

II. CASE PRESENTATION

The patient is a clinician (Ear Nose and Throat, ENT specialist), 42 years old man having 65 Kg body weight with

BMI 24.6. He is non-smoker and not alcoholic and he had no reported past health complication.

The reported patient, had been working on a dedicated COVID hospital since April, 2020 in a schedule of 8 hours a day from 8 A.M. to 4 P.M. and 6 days in a week. Since, he is ENT specialist, he mostly dealt with problems related to ear, nose and throat. While performing his duty he was dressed with personal protective equipment and render services with equipment like laryngoscopy instrument, nasal speculum, middle ear instrument, tonsils and adenoid instruments. The claimed patient, had a first feeling of discomforts on May 27, 2020 with a fever of 38.9°C, common cold, throat pain, cough and back pain. On the same day (Illness day: 1) he self-isolate himself at home. He had a last duty in a ward of COVID-19 patient's in the hospital on May 26, 2020 (Illness day: -1). On May 30, 2020 (Illness day: 4), oropharyngeal swabs for 2019-nCoV tested positive by quantitative reverse transcription polymerase chain reaction (RT-qPCR). After being confirmed with 2019-nCoV (on the illness day 4), he had been treated with ivermectin, azithromycin, doxycycline, zinc and calcitriol (Table 1) according to remote guideline form a medicine specialist from Bangladesh.

On the first three days of his illness, there were mild cough and throat pain with a mild fever. On illness day 2, a chest radiograph was taken showing no evidence of infiltrates or abnormalities (Figure 1). Coughing condition turned to mild to moderate on the fourth day of illness and the vital parameters were as follows: body temperature 36.67°C, oxygen saturation 97%, heart rate 88 beats/min, respiratory rate 20 breaths/min and blood pressure 120/80 mmHg. On days 5 through 8 of illness and isolation, vital signs of patient had remained

largely stable. Medical condition becomes deteriorated on illness day 9, when oxygen saturation was 91% and significant increase in blood pressure (140/90 mmHg) with heart rate and respiratory rate 94 and 19, respectively (Table 2). From the situation of mild respiratory distress, a second chest radiograph was done (on illness day 10) showing no evidence of pneumonia or other abnormalities (Figure 2).

TABLE 1: Treatment and care of patient during the illness period

Illness day	Care	Treatment	Remarks
01	Warm water bath, gargling with warm salty water	1. Paracetamol 500 mg, max. 3 times/day 2. Fexofenadine 120 mg, once/day	Taken as required
02	Drinking tea with lemon and clove, warm water bath, gargling with warm salty water	Continued the previous treatment	
03	Continued the previous cares	Continued the previous treatment	
04	Continued the previous cares. In addition, higher amount of citrus fruits was taken.	1. Ivermectin 18 mg, once/day 2. Esomeprazole 40 mg, twice/daily 3. Montelukast 10 mg, once/daily 4. Azithromycin 500 mg, once/daily 5. Doxycycline 100 mg, once/daily	Care and treatment Continued for 07 days (up to illness day 10)
11	Continued the previous cares.	1. Zinc 20 mg, once/daily 2. Calcitriol 0.25 mcg, once/daily	
12-15	Continued the previous care and treatment		

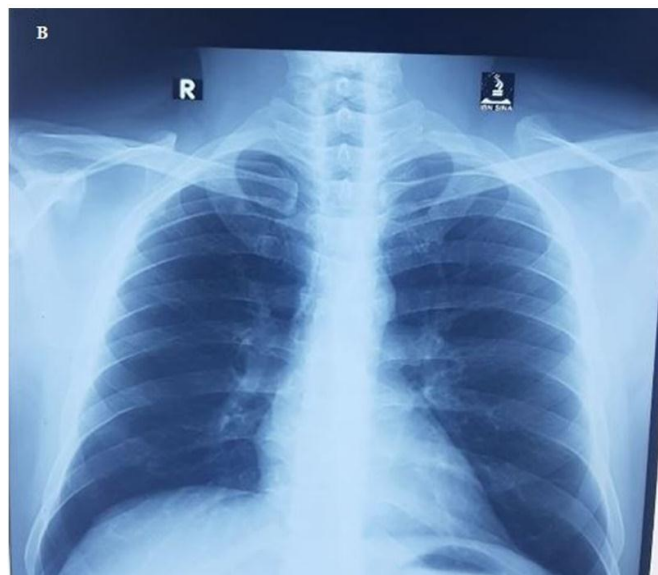


Figure 2. Posteroanterior chest radiograph showing no thoracic abnormalities (Taken on June 5, 2020; Illness day 10).

To check any functional alteration of vital organs, he was tested a number of biochemical and serological tests on illness day 11 and 14 (Table 3). Severe cough was remained until illness day 11. On the illness day 10 and 11, the oxygen saturation, heart rate, respiratory rate and blood pressure were 95% and 96%, 92 and 89 beats/min, 20 and 18 breaths/min and 130/90 and 120/80 mmHg, respectively. On days 12 through 14, oxygen saturation, respiratory rate, heart rate and blood pressure became settled down. As he started feeling better, oropharyngeal swabs tested negative by RT-qPCR on 10 June, 2020 (Illness day 15). He was maintained home quarantine for the next 10 days and on 20 June, 2020, he remained negative by third swabs test.

III. DISCUSSION

Cases of 2019-nCoV in health care workers are not uncommon. As the virus spread through respiratory aerosol, droplets, and physical contact, therefore most of the cases occur without consciousness. The case reported in this study, is a health care provider and having his regular service in dedicated COVID-19 hospital. As he visited COVID-19 patients and or COVID19 suspected patient having symptoms of common cold, cough and sore throat, it is plausible that he got infected from the COVID-19 positive patients, since human to human transmission has been reported [7].

In COVID-19 patients, complications like- respiratory failure, severe pneumonia, acute respiratory distress syndrome (ARDS), and cardiac injury have been reported in China [7], though the severity of illness may vary according to host characteristics like- patients age, strength of immunity, pre-existing comorbidities etc. [8]. The symptoms might also depend on the pathogenicity of virus. The reported patient showed mostly mild symptoms of COVID19 that were specified by fever, cough, throat pain and mild dyspnea. The blood biochemistry did not alter indicating functions of vital organs was normal [10].

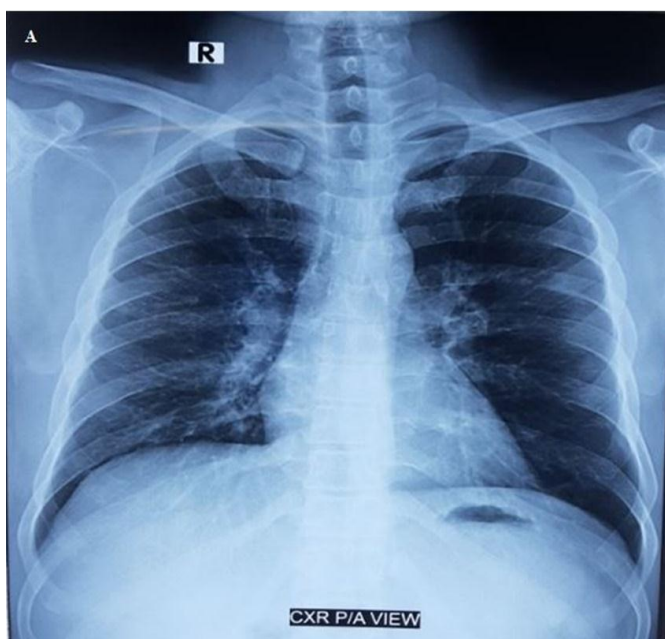


Figure 1. Posteroanterior chest radiograph showing no thoracic abnormalities (Taken on May 28, 2020; Illness day 2).

TABLE 2: Vital signs and symptoms from day of illness to follow up

Illness day	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Day of illness and isolation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	-
Fever (°C)	38.89	38.33	37.22	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	36.67	-	-
SPO2 (%)	-	-	98	97	96	97	95	94	91	95	96	96	98	98	-	-
Respiratory rate/minute	-	-	22	20	20	21	22	18	19	20	18	20	22	22	-	-
Heart rate/minute	-	-	88	88	90	88	92	93	94	92	89	88	88	88	-	-
Blood pressure (mm of Hg)	120/80	120/80	110/70	120/80	120/80	120/80	130/90	130/90	140/90	130/90	120/80	120/80	120/80	120/80	120/80	-
Cough	Mild	Mild	Mild	Moderate	Moderate	Moderate	Moderate	Severe	Severe	Severe	Severe	Moderate	Mild	Mild	-	-
Throat pain	Mild	Mild	Mild	Mild	Mild	Mild	Mild	Mild	Mild	Mild	Mild	Mild	Mild	Mild	-	-
Rhinorrea	-	-	Mild	Mild	-	-	-	-	-	-	-	-	-	-	-	-
Fatigue	-	-	-	Mild	Mild	Mild	Severe	Severe	Severe	Severe	Mild	Mild	Mild	-	-	-
Nausea	-	-	-	Mild	Mild	-	-	-	-	-	-	-	-	-	-	-
Abdominal discomfort	-	-	-	Mild	Mild	-	-	-	-	-	-	-	-	-	-	-
COVID swab test	-	-	-	Positive	-	-	-	-	-	-	-	-	-	-	Negative	Negative
Chest radiograph	-	No abnormalities	-	-	-	-	-	-	-	No abnormalities	-	-	-	-	-	-

TABLE 3: Laboratory test results

Measure	Reference range	Illness day 12, 7 June	Illness day 15, 10 June
Platelet count (per µl)	150000-450000	255000	261000
Mean platelet volume (fL)	8-9.5	10.2§	10§
Hemoglobin (g/dl)	12.0-16	14.3	14.8
Red-cell count (per µl)	4450000-5500000	4930000	5100000
Erythrocyte sedimentation rate (mm)	0-20	12	10
Hematocrit (%)	40-50	41.6	42
Mean corpuscular volume (fL)	83-101	84.4	84
Mean corpuscular hemoglobin (pg)	27.5-31.5	29	29
Mean corpuscular hemoglobin concentration (g/dL)	31.5-34.5	34.4	34
Red cell distribution width (%)	11.6-14	14.9§	14.3§
Neutrophils (%)	40-75	60	62
Lymphocytes (%)	20-40	34	35
Monocytes (%)	2.0-10	4	4
Eosinophils (%)	2.0-6	2	2
Basophils (%)	<1	0	0
White-cell count (per µl)	4000-11000	5110	5400
Circulating Eosinophils (per µl)	50-500	102	110
Free thyroxine (ng/dl)	0.71-1.85	1.31	1.35
Thyroid-stimulating hormone (µIU/ml)	0.47-5.01	2.02	2.35
Lactic acid dehydrogenase (U/L)	140-280	292§	288§
Plasma glucose random (mmol/L)	3.33-7.78	7.75	7.77
Creatinine (mg/dl)	0.6-1.4	1	0.98
Total bilirubin (mg/dl)	<1	0.34	0.37
Alanine aminotransferase (U/L)	<40	66§	76§
Phosphate (mg/dl)	2.5-4.9	3.33	3.12
Sodium (mmol/L)	135-148	144	142
Potassium (mmol/L)	3.5-5.3	4.3	4.1
Chloride (mmol/L)	98-107	108§	106
Carbon dioxide (mmol/L)	21-32	23	24
Activated partial thromboplastin time (sec)	30-40	30	31
Prothrombin time (sec)	11-13.5	12	12.3
International normalized ratio	0.9-1.1	1	1
D-Dimer (ng/ml)	<200	160	155
C-reactive protein (mg/L)	<8	10.1§	8.7§

The patient of this study apparently recovered fifteen days of illness which is confirmed by 2 subsequent throat swab RT-qPCR. He was not hospitalized and isolated in a separate room in his house. None of the other family members showed COVID-19 symptoms within COVID-19 incubation period [11] the next 14 days which indicates other family members did not come close contact with the said patient.

This particular case report commentaries the story of a clinicians' who recovered from COVID-19 at home by taking

drugs and care suggesting treatment and care at home could be an alternative to hospitalization for mild symptomatic COVID-19 patients with no pre-existing health complications in the paucity of COVID-19 clinics. Home isolation and treatment also diminish the unnecessary visit to a hospital, which is a factor to infect the high-risk group in the hospital [12]. To deal with COVID-19 patients, medical staff and health workers need to take proper protection by ensuring personal protective equipment, disinfecting materials and

separate ward with special team to uphold the healthcare systems.

Consent for publication

A written informed consent to publish this case was obtained from the patient.

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Declaration of Conflicting Interests

The authors declare that there is no conflict of interest regarding the publication of this article.

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**Corresponding author:*

Mahabub Alam

*Assistant Professor, Department of Animal science and Nutrition
Chattogram Veterinary and Animal Sciences University, Khulshi,
Chattogram-4225, Bangladesh.
mahabubvasu@gmail.com*