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Case Report

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Clinical Experience of COVID19 Infection in a Patient with a Diaphragmatic Anomaly

Shorouk Ibrahim, Mohamed Habiballah*, Ebtisam Abu Azab

Primary Health Care Corporation (PHCC), Doha, Qatar

***Corresponding author:** Mohamed Habiballah, Primary Health Care Corporation (PHCC), Doha, Qatar

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Introduction

The novel acute respiratory syndrome Coronavirus 2 (SARS-COV 2) has rapidly spread worldwide with increasing morbidity and mortality rate. Ongoing studies still explore the effects of the new Coronavirus Disease 19 (COVID 19) in the adult population and the precipitating factors for deterioration. One of possible determinant of improvement is presence of co-morbidities, especially cardiovascular involvement which is one of the most significant and life-threatening complication [1]. However, little was known about the clinical course of COVID19 infection with concomitant Diaphragmatic anomalies.

Case Presentation

We presented 41 years old male health care provider with a medical history of newly diagnosed HTN (for 6 months, on Amlodipine) and obesity (BMI 31.4). He dealt with COVID-19 patients. He was first tested positive for COVID-19 IGM at 14/6/2020 with negative COVID-19 PCR. He was isolated with mild symptoms. Several months later, He developed again symptoms of fever, general malaise, dry cough, shortness of breath and body pain before admission. He was tested positive for COVID-19 by PCR at 15/10/20 and he was in home isolation since then. No improvement was reported, and the patient was admitted to the hospital on at 20/10/20. He progressed to severe COVID-19 pneumonia due to his dependence mostly on the left lung. The patient has a congenital anomaly at the diaphragm, a higher right dome resulting in a shorter/smaller right lung. The physical examination concluded no other signs of Cardiovascular, Gastrointestinal, Genito-urinary, or Central Nervous systems deterioration. Laboratory investigations revealed high serum ALT (56 U/L), high serum AST (49 U/L), high serum CRP (5.8 mg/L) and low Potassium level (3.4 mmol/L). CBC showed a high level of PDW (12.2 FL). The patient then received 2 units of Plasma on the 24th of October 2020. Chest Radiograph was performed due to continuous fever and cough. Limited left hemidiaphragm was noted suggestive of prominent broncho vascular marking as well as left mid and lower lung zone airspace shadowing representing pneumonic consolidation. Changes were suggestive of right-sided pleural effusion. A right lateral decubitus chest radiograph is advised (Figure 1).

Medications

21/10/2020

Azithromycin 250 mg CAP 500 mg 2 cap(s), Oral, Daily

Ceftriaxone 2 gm 2 vial(s), IV, Daily

Dextromethorphan 3 mg/mL (60 mL) SYR 30 mg 10 mL, Oral, TID

Enoxaparin 60 mg/0.6 mL PFS INJ 60 mg 0.6 mL, Subcutaneous, Daily

Hydroxychloroquine 200 mg TAB 400 mg 2 tab(s), Oral, BID

Hydroxychloroquine 200 mg TAB 400 mg 2 tab(s), Oral, Daily

Lopinavir/Ritonavir 200 mg/50 mg TAB 2 tab(s), Oral, BID

Paracetamol 500 mg TAB 1,000 mg 2 tab(s), Oral, q 6 hr

24/10/2020

2 units of Plasma and changing Kaltera to Remisidivir

Amlodipine 10 mg TAB 10 mg 1 tab(s), Oral, Daily

Ceftriaxone 2,000 mg 2 vial(s), IV, q24 hr

Remdesivir 100 mg 20 mL, IV, q24 hr

Dexamethasone 8 mg 2 mL, IV INT Inf, Daily

Enoxaparin 60 mg/0.6 mL PFS INJ 60 mg 0.6 mL, Subcutaneous, Daily

Pantoprazole 40 mg TAB 40 mg 1 tab(s), Oral, Daily

Paracetamol 500 mg TAB 1,000 mg 2 tab(s), Oral, q6 hr

PRN: Loperamide 2mg CAP 2 mg 1 cap(s), Oral, BID

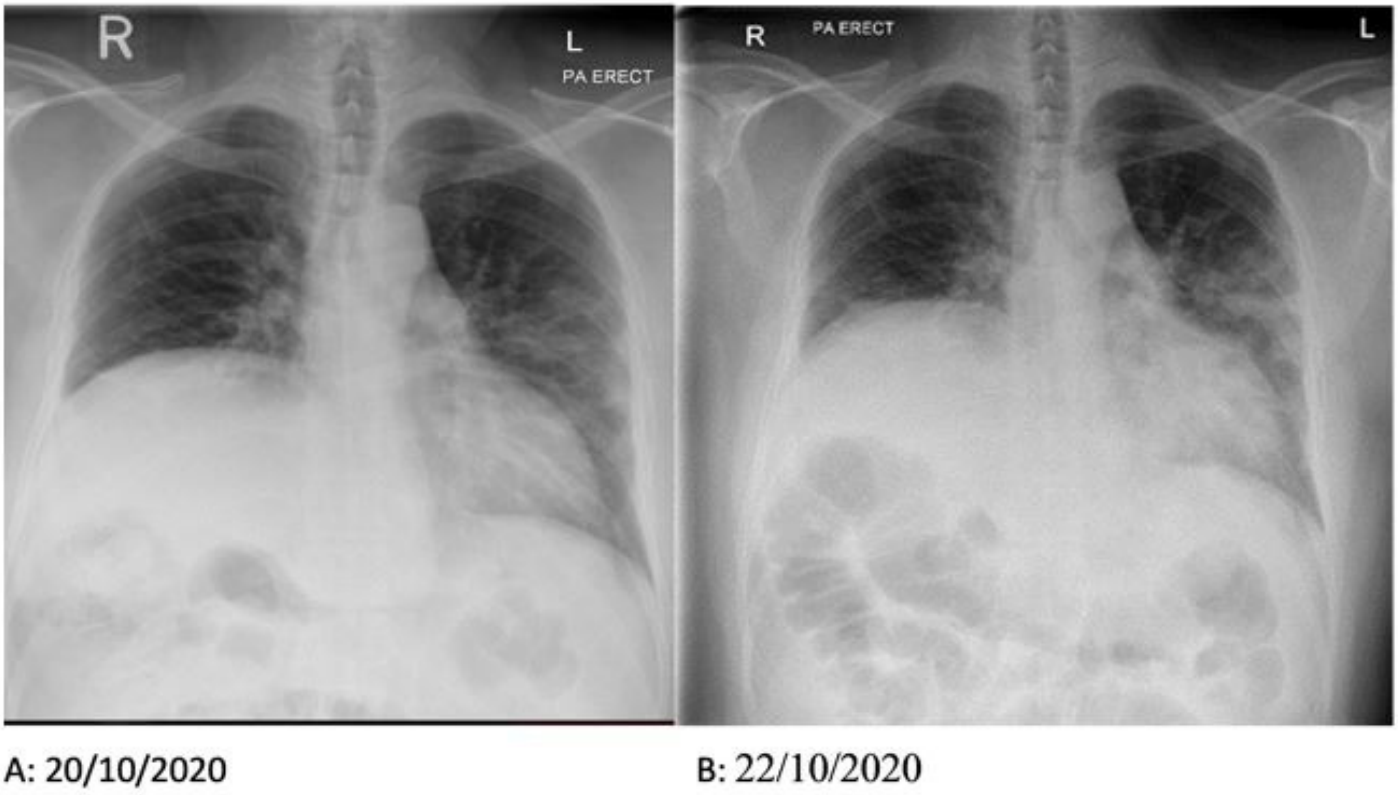

Figure 1: Chest Radiograph of Patient with COVID19 infection and a congenital anomaly at the diaphragm.

Discussion

The clinical course of patient with COVID19 infection and congenital diaphragmatic anomalies was rarely studied previously. Other studies evaluated the differences in the clinical presentation of some conditions (e.g., pediatric, and Congenital Heart Disease (CHD)) and increased risk for severe infection [2]. Patients with CHD are greatly affected with COVID-19 and may have more grave outcomes than other populations [2]. Also, a recent evidence only illustrated a case series of seven neonates with congenital heart and lung malformations born to women who tested positive for SARS-CoV-2 during their pregnancy at a single medical center in New York City, USA. Six infants had congenital heart disease and one was diagnosed with congenital diaphragmatic hernia. In all seven infants, none of the seven exhibited symptoms generally associated with COVID-19. This study mainly illustrated the vertical transmission of COVID-19 infection [3].

Conclusion

The second infection is not uncommon with COVID19. Patients with primary infection and get cured should take the same precautions as non-infected individuals. Diaphragmatic anomalies may work as an exaggerating factor for COVID19 infection.

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