

Practical Experiences in COVID-19 Clinical Management Case Reports

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Abstract

Coronavirus disease 2019 (COVID-19) is a respiratory tract infection caused by a newly emergent coronavirus, that was first recognized in Wuhan, China, in December 2019. Genetic sequencing of the virus suggests that it is a betacoronavirus closely linked to the SARS virus (1).

Most patients (80%) with COVID-19 develop only mild or uncomplicated illness, approximately 15% develop severe disease that requires hospitalization and oxygen therapy, and 5% require admission to an intensive care unit (1). In most severe cases, COVID-19 can be complicated by the acute respiratory distress syndrome (ARDS), sepsis and septic shock, multiorgan failure, including acute kidney injury and liver & cardiac injury. Older age and co-morbid disease have been reported as risk factors for death.

We report the clinical presentations, laboratory changes, imaging findings, diagnostic criteria, treatments, outcomes, prognostic factors, and risk factors of COVID-19 admitted to our facility.

COVID-19 is characterized by low-grade fever, cough, dyspnea, chest pain, headache, vomiting, diarrhea, lymphocytopenia, pulmonary infiltrates/opacities on chest X-ray and ground-glass opacities on chest CT scan.

A majority of patients have elevated levels of D-dimer, serum transaminases and laboratory findings consistent with sepsis-induced diffuse intravascular coagulation, suggesting a coagulopathic process, yet no prospective study has demonstrated the predictive nature of these markers for the occurrence of a thromboembolic event, only a higher risk for mortality.

Keywords: COVID-19; Sars Cov2; acute respiratory distress syndrome (ARDS); acute respiratory failure; acute kidney injury; liver damage; sepsis; multi-organ dysfunction

Introduction

Late in December 2019 and early in January 2020, reports of a very progressive pneumonia-like respiratory syndrome, starting in Wuhan, China, induced global health concerns. Soon after the onset of disease, it was found that the pathogen was a new member of the coronaviridae family, named SARS-CoV-2 which is now called 2019-n-CoV. The respiratory syndrome caused by 2019-n-CoV is called COVID-19.

COVID-19 is characterized by low-grade fever, cough, dyspnea, lymphopenia, and ground-glass opacities on chest CT scan. COVID-19 is a highly contagious disease, probably an aerosol born one, with human to human transmission capacity which has implicated many countries all around the world. In this review article, we systematically surveyed 16 patients from our facility to give a picture of the clinical presentations, laboratory changes, imaging findings, diagnostic criteria, treatments, outcomes, prognostic factors, and risk factors of COVID-19.

Case Presentations

Participants and sources of data

All patients admitted to Francistown Academic Hospital, Francistown, Botswana, between July 26 and August 5, 2021, diagnosed with COVID-19 and treated according to Botswana Interim Clinical Guidance for the Management of COVID-19, were enrolled.

The Institutional Review Board of Francistown Academic Hospital approved this report and waived the need for informed consent from individual patients, due to the retrospective chart review design and absence of identifying images or personal/ clinical details that could compromise anonymity.

Procedures

All patients received oxygen therapy at different flow rates according to Botswana Interim Clinical Guidance for the management of patients with COVID-19 and according to the severity of the condition- Table 6.

All patients received standard treatment with azithromycin, co-amoxiclav, vitamin C, clexane and Tiophiline. Some selected patients received steroids.

Table 6: Estimated fraction of inspired oxygen from variable oxygen delivery devices

		
Nasal cannula	Simple face mask	Face mask with reservoir bag
O ₂ flow rate 1-5 L/min	O ₂ flow rate 6-10 L/min	O ₂ flow rate 10-15 L/min
Estimated FiO ₂ 0.25-0.40	Estimated FiO ₂ 0.4-0.6	Estimated FiO ₂ 0.60-0.95

Case 1

A 74 years old female was admitted with history of positive testing results for COVID-19 eleven days prior to the presentation. She reported symptoms of difficulty in breathing and cough. She was a known hypertensive on regular medications. Her oxygen saturation was 70% on oxygen.

Discussion

Funding

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

Availability of data and materials

The datasets used and/or analysed in this study are available from the corresponding author upon reasonable request.

Conflict of interest

The authors declare that they have no competing interests.

References

1. WHO Interim Guidance 13 on Clinical Management of Severe Acute Respiratory Infection (SARI) when COVID-19 Disease is suspected.



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