Covid-19 Diagnosis, Therapeutic Approaches and Post Disease Complications: A Literature Review

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ABSTRACT

Coronavirus disease 2019 (COVID-19) is an infectious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) has made a serious health risk globally with millions of people at risk. Till currently there are not any clinically approved antiviral medication and vaccines, clinical trials are going on in patients with COVID-19. We have discussed recent literature data on COVID-19 treatment, Post COVID complications and current progress and upcoming perceptions in COVID-19 treatment.

Keywords: COVID-19, SARS-CoV-2, Severe Acute Respiratory Syndrome

Introduction

COVID-19 was first detected in 2019 in China and declared as a pandemic by World Health Organization (WHO) (Habas et al., 2019). The COVID-19 pandemic has catastrophic effects for many countries around the world and presents an unprecedented challenge to public health, food systems and the world of work [1]. The effects and consequences are diverse in different countries (Florence et al., 2021). The disruption of the economy caused millions of people to fall into extreme poverty [2]. People died in large numbers due to Covid-19. The huge number of deaths and fear caused by pandemic disrupted economic growth of the countries around the world [3].

Discussion

Coronavirus disease 2019 (COVID-19) requires an early diagnosis to take medical treatment and governmental actions to limit transmission (Yüce et al., 2021). Currently widely used diagnostic method is real-time PCR (RT-PCR) which detects the viral RNA in nasopharyngeal samples (4). Limited information about the efficiency of the two-dosage messenger RNA (mRNA) in preventing infection with SARS-CoV-2 and in attenuating Covid-19 when administered in actual situations (Thompson et al., 2021). Elderly patients with chronic diseases are considered of high risk. But younger people without...
chronic diseases may also present lethal complications.

Cytokine storm due to the uncontrolled systemic inflammatory response brought a new definition as SARS-CoV-2 Multiple Organ Disease Syndrome (SARS-CoV-2 MODS). In this case immunomodulatory agents are widely used. National Health Care Bodies faced a burden due to hyperacute outbreak and a large number of patients required Intensive Care Unit (ICU) in a limited period of time (Rello et al., 2020). It is suggested to minimize lung inflation at end inspiration and expiration, minimizing oxygenation and optimizing the level of hemoglobin.

SARS-CoV-2 enters the lung parenchyma and starts proliferation during the early phase of infection. The second pulmonary phase led to inflammatory response, tissue damage, and respiratory failure. In the third hyperinflammation phase led to systemic inflammation and damage of organs. Patients with mild symptoms administered with symptomatic treatments such as antipyretics for fever and pain, and proper nutrition and rehydration. Glucocorticoids have been used for severe influenza and acquired pneumonia. Glucocorticoids may reduce respiratory failure. Tocilizumab might have a clinical benefit since it has anti-IL-6 nature. Antiviral drugs like Chloroquine, Hydroxychloroquine have been used but the usage of chloroquine is limited because of the cardiovascular toxicity and other safety concerns of chloroquine (Hin Fung et al., 2021). Remdesivir has been approved by several health care centers globally for treatment of SARS-CoV-2 infection. Remdesivir is a wide range anti-viral medication against SARS-CoV-2 that has shown to inhibit SARS-CoV-2. However, Remdesivir suit for patients with mild COVID-19 symptoms. Major pharmaceutical companies have developed Vaccines to prevent COVID-19 and currently in human trials (Lazarus et al., 2021). Ongoing clinical trials have shown to have better results to prevent COVID-19. Government Health Sectors have approved the COVID-19 vaccines.

We are dealing with a wide variety of symptoms, effects and complications of the disease that make poor understanding of the disease. Since lungs are the most affected organs, and the post-COVID and prolonged effects are correlated to the respiratory system, it is difficult to define and forecast the outcome (Esendağlı et al., 2021). Studies confirmed that, number of patients have shown long term complications of the virus. Patients have shown several key complications that may arise including pulmonary, cardiovascular, hematological, neurological and psychological, dermatological, and other damages.

Conclusion

The COVID-19 adversely influences the course of disease in older patients. This needed proper understanding of the disease, evaluation of the patient, and introduction of therapeutic and dietary approaches. The impact of the novel strains on the progress of long COVID-19 and which patients will be
most affected will require further study.

References


**Web-links:**

1. https://www.tiyara.org/blog/the-devastating-effects-of-covid-19-in-india?gclid=EAIaIQobChMIquD7k7bl-AIVSyUrCh3nJQzGEAAYAiAAEgKf3F_BwE
