Therapeutic Management of Patients with COVID-19

Last Updated: December 3, 2020

Executive Summary

The pathogenic processes are thought to drive the pathogenesis of COVID-19. Early in the course of the infection, the disease is primarily driven by replication of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Later in the course of the infection, the disease is driven by an exaggerated immune/inflammatory response to the virus that leads to tissue damage. Based on this understanding, it is anticipated that antiviral therapies would have the greatest effect early in the course of disease, while immunosuppressive/anti-inflammatory therapies are likely to be more beneficial in the later stages of COVID-19.

In the earliest stages of infection, before the host has mounted an effective immune response, anti-SARS-CoV-2 antibody-based therapies may have their greatest likelihood of having an effect. In this regard, although there are insufficient data from clinical trials to recommend either for or against the use of any specific therapy in this setting, preliminary data suggests that outpatients may benefit from receiving anti-SARS-CoV-2 monoclonal antibodies early in the course of infection. The anti-SARS-CoV-2 monoclonal antibodies bamlanivimab and casirivimab plus imdevimab are available through Emergency Use Authorizations for outpatients who are at high risk for disease progression.

Remdesivir, an antiviral agent, is currently the only drug that is approved by the Food and Drug Administration for the treatment of COVID-19. It is recommended for use in hospitalized patients who require supplemental oxygen. However, it is not routinely recommended for patients who require mechanical ventilation due to the lack of data showing benefit at this advanced stage of the disease.1–4

Dexamethasone, a corticosteroid, has been found to improve survival in hospitalized patients who require supplemental oxygen, with the greatest effect observed in patients who require mechanical ventilation. Therefore, the use of dexamethasone is strongly recommended in this setting.5–10

The COVID-19 Treatment Guidelines Panel (the Panel) continues to review the most recent clinical data to provide up-to-date treatment recommendations for clinicians who are caring for patients with COVID-19.

Figure 1 summarizes the Panel’s recommendations for managing patients with varying severities of disease. A comprehensive summary of the clinical data for the drugs that are being investigated for the treatment of COVID-19 can be found in the Antiviral Therapy, Immune-Based Therapy, and Adjunctive Therapy sections of these Guidelines.

Figure 1. Pharmacologic Management of Patients with COVID-19 Based on Disease Severity

Doses and durations are listed in the footnote.

DISEASE SEVERITY

Not Hospitalized, Mild to Moderate COVID-19

Hospitalized but Does Not Require Supplemental Oxygen (But Does Not Require Oxygen Delivery Through a High-Flow Device, Noninvasive Ventilation, Intravenous Mechanical Ventilation, or ECMO)

Hospitalized and Requires Supplemental Oxygen (But Does Not Require Oxygen Delivery Through a High-Flow Device, Noninvasive Ventilation, Intravenous Mechanical Ventilation, or ECMO)

Hospitalized and Requires Oxygen Delivery Through a High-Flow Device or Noninvasive Ventilation

Hospitalized and Requires Intravenous Mechanical Ventilation or ECMO

PANEL’S RECOMMENDATIONS

Dexamethasone should not be used (All)

There are insufficient data to recommend either for or against the routine use of remdesivir. For patients at high risk of disease progression, the use of remdesivir may be appropriate.

Use one of the following options:

• Remdesivir

− For patients who require minimal supplemental oxygen (BMI)

− Dexamethasone plus remdesivir

− For patients who require increasing amounts of supplemental oxygen (BMI)

− Dexamethasone

− When combination therapy with remdesivir cannot be used or is not available (BMI)

References

1-4

5-8