Pharmacologic Interventions for Critically Ill Patients

Empiric Broad-Spectrum Antibiotic Therapy

**Recommendations**

- In the absence of a proven or suspected bacterial infection, the COVID-19 Treatment Guidelines Panel (the Panel) **recommends against** the use of **empiric broad-spectrum antibiotics** in patients with severe or critical COVID-19 (BIII).

- As with any hospitalized patient, patients with COVID-19 who receive antibiotics should be reassessed daily to minimize the adverse consequences of unnecessary antimicrobial therapy (AIII).

**Rationale**

Variable rates of community- and hospital-acquired infections have been reported in adult patients with COVID-19. Bacterial coinfection at the time of hospitalization has been reported in 1% to 3.5% of patients with COVID-19.\(^1\,^2\) Secondary infections have been reported in 14% to 37% of intensive care unit patients, but the reported rates have been influenced by differences in the severity of illness, duration of hospitalization, method of diagnosis, and time period studied.\(^3\,^4\)

There are no clinical trials that have evaluated the use of empiric broad-spectrum antibiotics in patients with severe or critical COVID-19 or other coronavirus infections. Routine, empiric use of antibiotics in patients with severe or critical COVID-19 is **not recommended** (BIII); this recommendation is intended to mitigate the unintended consequences of side effects and resistance. The use of antibiotics may be considered in specific situations, such as the presence of a lobar infiltrate on a chest X-ray, leukocytosis, an elevated serum lactate level, microbiologic data, or shock.

The use of antibiotics in patients with severe or critical COVID-19 should follow guidelines established for other hospitalized patients (i.e., for hospital-acquired pneumonia, ventilator-associated pneumonia, or central line-associated bloodstream infection). It is unclear whether using the corticosteroids or other immunomodulatory agents that are recommended in the Guidelines should alter such approaches.

**Therapeutic Management of Hospitalized Adults With COVID-19**

See Therapeutic Management of Hospitalized Adults With COVID-19 for the Panel’s recommendations on when to use baricitinib, dexamethasone, remdesivir, and tocilizumab.

**Immune-Based Therapy**

See the Immunomodulators section for recommendations on the use of immunomodulators.

**Adjunctive Therapy**

Recommendations regarding the use of adjunctive therapies in critical care settings, including antithrombotic therapy and vitamin C, can be found in Antithrombotic Therapy in Patients With COVID-19, Therapeutic Management of Hospitalized Adults With COVID-19, and Vitamin C.
References


