COVID-19: A New Severe Infection

Andre C. Kalil

This edition of *Current Opinion in Critical Care* is focused on Severe Infections. We are living in unprecedented times and facing the largest pandemic since 1918. Thus, all articles published in this edition will approach the challenges of caring for hospitalized patients with COVID-19, an infection caused by SARS-CoV-2.

Sweeney *et al.* ask a very important question: 'COVID-19 respiratory failure: What is the best supportive care of patients who require ICU admission?'. Although new treatments are being rapidly evaluated by randomized clinical trials, hundreds of thousand patients continue being admitted to the hospital and to the ICU due to COVID-19. Sweeney and Malhorta revisit the errors done at the beginning of the pandemic and provide evidence that the basic principles of good ICU practice remain essential to save the lives of critically ill patients with COVID-19.

Povoa *et al.* discuss a relevant and evolving topic regarding 'Secondary pneumonias in critically ill patients with COVID-19: risk factors and outcomes'. Similar to the evolving changes in supportive care described by Sweeney *et al.*, Povoa *et al.* describe that in the beginning of the pandemic, there was an impression that secondary pneumonias were uncommon, but later it was found that the incidence of secondary pneumonias is particularly high in patients who require mechanical ventilation, and this risk may be also related to the frequent use of multiple immunosuppressive therapies in the course of the ICU care.

Ramos *et al.* approach another pertinent question: 'Sepsis in patients hospitalized with COVID-19: how often and how severe?'. The authors point out that the sepsis-like picture in critically ill patients with COVID-19 is not the only cause of mortality, but as observed in previous sepsis studies, the hospital and ICU resources (e.g. quality control, infection prevention) to deliver the necessary critical care are fundamental in the care of patients with severe COVID-19. For instance, low and middle-income countries are already observing higher mortality with COVID-19 than higher income countries.

Wittebole *et al.* discuss another aspect of the treatment by asking 'Is there a role for immune-enhancing therapies for acutely ill patients with COVID-19?'. The authors show that many patients with this viral infection may present with profound

lymphopenia, which can be associated with an immunosuppressive state. Hence, this opens the possibility for immune-enhancing therapies to be helpful at the initial stages of the disease process.

Beigel's manuscript asks the question 'What is the role of remdesivir in patients with COVID-19?'. The efficacy of an antiviral therapy is essential to successfully treat hospitalized patients with COVID-19. The author provides a comprehensive review of all trials that have evaluated this antiviral agent, and concludes that remdesivir provides significant clinical benefits to hospitalized patients with COVID-19 and is already approved for clinical practice by regulatory agencies of 48 countries.

Florescu *et al.* discuss 'Janus Kinase inhibitors for the treatment of hospitalized patients with COVID-19'. This class of immunomodulatory agents has never been used for the treatment of infectious diseases in the past; thus, the authors' review of the subject is timely, as clinical and survival benefits with this class of agents have already been shown by randomized placebo-controlled trials in hospitalized patients with COVID-19.

In conclusion, the articles of this edition were written by experts in the field who are also in the frontlines for the caring of hospitalized patients with COVID-19. This combination will be readily apparent after reading these highly relevant articles to arguably the biggest challenge of our times.

Acknowledgements

None.

Financial support and sponsorship

None.

Conflicts of interest

There are no conflicts of interest.

University of Nebraska Medical Center, Omaha, Nebraska, USA

Correspondence to Andre C. Kalil, MD, MPH, Professor, University of Nebraska Medical Center, 985400 Nebraska Medical Center, Omaha, NE 68198. Tel: +1 402 559 8650; e-mail: akalil@unmc.edu

Curr Opin Crit Care 2021, 27:461

DOI:10.1097/MCC.0000000000000867