COVID-19 in immunocompromised hosts: Clinical experiences and implications.

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Abstract

Patients and overburdened healthcare systems around the world have been affected by the COVID-19 pandemic, which was caused by the severe acute respiratory syndrome coronavirus 2. The clinical characteristics and prognosis of COVID-19 in immunocompromised patients, who are thought to be at higher risk of severe disease but may also have fewer harmful inflammatory responses, are not well understood.

Keywords: COVID-19, Immunocompromised, SARS-CoV-2

The coronavirus that causes severe acute respiratory syndrome (SARS-CoV-2) has caused a global pandemic. Immunocompromised individuals with respiratory virus infection are at risk of more severe infection and higher rates of bacterial and fungal superinfection than their immunocompetent counterparts due to reduced immune defenses from both the underlying disease and therapy [1]. Immunocompromised patients infected with SARS-CoV-2 are also a source of worry.

Important questions about COVID-19-infected immunocompromised patients remain unanswered. Do immunocompromised patients have abnormal clinical symptoms in particular? Is it true that immunocompromised people have worse COVID-19 results, or that they are shielded from cytokine-mediated inflammation and therefore severe disease? What is the COVID-19 severity risk of immunosuppression compared to other comorbidities? With more information, we will be able to properly manage and counsel these vulnerable patients.

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The existing literature on COVID-19 and immunosuppressive therapy is generally based on case reports and observational studies from China and Europe, and it primarily concerns transplant patients and people with systemic autoimmune disorders [2].

In Hubei, China, Li et al reported two incidences of COVID-19 among 200 heart transplant patients. Despite the fact that both patients were immunosuppressed with tacrolimus and mycophenolate mofetil, their clinical presentation, disease progression, laboratory findings, and CT imaging were identical to those of non-immunosuppressed patients. Both of them made it through the ordeal [3].

Zhu et al, Guillen et al, and Liu et al describe renal and liver transplant patients immunosuppressed with different combinations of tacrolimus, mycophenolate mofetil, and prednisone in single case studies [4]. Each of the three groups came to the same conclusion: their COVID-19 patients did not diverge from the normal clinical course seen in non-transplanted adult COVID-19 patients.

In order to ascertain the actual risk of infection and severe COVID-19 disease in immunocompromised patients, large-scale prospective epidemiological studies will be required. However, similar to SARS and MERS, these preliminary findings show that the incidence, morbidity, and fatality rates in immunocompromised patients may not differ much from the general population [5].

Conclusion

Immunosuppression has two sides to it. While it has been widely used by doctors to treat chronic inflammatory disorders, it does come with a number of drawbacks, one of which is an increased risk of infection. In light of the current COVID-19 pandemic, it is critical that prescribers of these drugs take the time to think about how they should be used and educate their patients on what to do if they become ill. Immunosuppression medication should be continued in individuals who require it, with the exception of perhaps high-dose corticosteroid therapy, and in patients with related risk factors for severe COVID-19 disease, according to current best practise standards.

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More study is urgently needed to corroborate these preliminary findings and enable for the refining of guidelines for managing immunocompromised patients during the COVID-19 pandemic.

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