

Outcomes of COVID-19 in solid organ transplant recipients: the need for treatment strategies and preventive measures

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When the novel coronavirus causing COVID-19 first emerged in 2020, the transplant community raced to create safety protocols for their solid organ transplant patients. Experience with the SARS and H1N1 pandemics served as a reminder that similar viral illnesses can wreak havoc in this vulnerable patient population.¹ Shortly after the number of cases exponentially increased to pandemic status, clear evidence emerged that SARS-CoV-2 can cause profound and often fatal illness in these patients, independent of graft function. In the current issue of *Polish Archives of Internal Medicine (Pol Arch Intern Med)*, Ślusarczyk et al² present a retrospective review of their center's experience with COVID-19 in kidney and liver transplant recipients. In their analysis, the authors report a 30% mortality rate in hospitalized kidney transplant recipients with COVID-19, which was higher than the observed 12.5% mortality rate in their small liver transplant cohort. They suggest that kidney transplant recipients may have more severe COVID-19 due to high baseline immunosuppression.

The observations of Ślusarczyk et al² are not unique; they are part of a continuous reminder that COVID-19 is a legitimate threat to solid organ transplant patients. The focus should now be on identifying preventive treatment strategies and reporting outcomes associated with SARS-CoV-2-related therapies. The introduction of SARS-CoV-2 mRNA vaccines has been a welcome change to the COVID-19 pandemic, but the data for solid organ transplant patients have not been as promising. Despite the widespread utilization of these vaccines, transplant patients continue to experience the deleterious effects of the disease. The necessity of immunosuppression continues to be a double-edged sword, as transplant recipients have low antibody response to the vaccine compared with nonimmunosuppressed individuals.^{3,4} Cases of

breakthrough infections following vaccination are also being widely reported,^{5,6} as the prevalence of the virus continues to increase due to viral mutations and lack of social distancing measures after the lifting of public restrictions. Additionally, vaccine hesitancy also plays an important role,⁷ further increasing the risk of this vulnerable cohort.

Despite the poor outcomes of COVID-19 in solid organ transplant recipients, the benefit of organ transplantation in patients with end-organ disease still outweighs the risk of the disease. Therefore, transplant centers should continue to provide transplantation during the COVID-19 pandemic. From monoclonal antibodies and investigational agents to vaccine boosters, therapies for COVID-19 continue to grow. It is essential to evaluate these outcomes in real time, as the dynamic landscape of COVID-19 can shift treatment strategies and influence public policy. More importantly, there is a need to continue the community effort of social distancing and vaccine implementation among the general population. Although significant challenges remain in the management of transplant patients with COVID-19, there is hope in the global effort to identify treatment modalities that can ultimately protect this patient population.

ARTICLE INFORMATION

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CONFLICT OF INTEREST None declared.

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REFERENCES

- 1 Gainer SM, Patel SJ, Seethamraju H, et al. Increased mortality of solid organ transplant recipients with HTN1 infection: a single center experience. *Clin Transplant*. 2012; 26: 229-237. [↗](#)
- 2 Ślusarczyk A, Tracz A, Gronkiewicz M, et al. Outcomes of COVID-19 in hospitalized kidney and liver transplant recipients: a single-center experience. *Pol Arch Intern Med*. 2021; 131: 16070. [↗](#)
- 3 Yi SG, Knight RJ, Graviss EA, et al. Kidney transplant recipients rarely show an early antibody response following the first COVID-19 vaccine administration. *Transplantation*. 2021; 105: e72-e73. [↗](#)
- 4 Boyarsky BJ, Werbel WA, Avery RK, et al. Antibody response to 2-dose SARS-CoV-2 mRNA vaccine series in solid organ transplant recipients. *JAMA*. 2021; 325: 2204-2206. [↗](#)
- 5 Ali NM, Alnazari N, Mehta SA, et al. Development of COVID-19 infection in transplant recipients after SARS-CoV-2 vaccination. *Transplantation*. 2021; 105: e104-e106. [↗](#)
- 6 Wadei HM, Gonwa TA, Leoni JC, et al. COVID-19 infection in solid organ transplant recipients after SARS-CoV-2 vaccination. *Am J Transplant*. 2021; 21: 3496-3499. [↗](#)
- 7 Tsapepas D, Husain SA, King KL, et al. Perspectives on COVID-19 vaccination among kidney and pancreas transplant recipients living in New York City. *Am J Health Syst Pharm*. Jun 29 2021. [Epub ahead of print]. [↗](#)