Shared and Data-Driven Decision-Making with Transplant Recipients About COVID-19 Vaccination Is Crucial

TO THE EDITOR:

We appreciate this powerful patient perspective regarding the ongoing struggles and trade-offs inherent to being an immunosuppressed patient during the coronavirus disease 2019 (COVID-19) pandemic. Living during this pandemic has been challenging, particularly for immunocompromised persons who have not generated antibody response to vaccination and thus remain frustrated and frightened about their continued high risk for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection.

Indeed, antimetabolites, such as mycophenolate mofetil (MMF), are strongly associated with poor vaccine seroresponse in liver transplantation recipients, (1) which makes it a potentially modifiable risk factor in the search for improved vaccine immunogenicity. In patients undergoing heart, lung, and kidney transplantation, there is a strong association between MMF dose and antibody response to vaccination. (2,3) In our

Address reprint requests to Dorry L. Segev, M.D., Ph.D., Department of Surgery, Johns Hopkins University School of Medicine, 2000 East Monument Street, Baltimore, MD 21205. Telephone: 410-502-6115; FAX: 410-614-2079; E-mail: dorry@jhmi.edu

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clinical experience, we routinely hold MMF in the setting of significant cytopenia, gastrointestinal upset, and during severe infectious syndromes including COVID-19. However, unlike in patients with autoimmune disease where rheumatology societies advise patients to hold MMF perivaccination given evidence for improved seroresponse, (4,5) this is not standard of care for transplantation patients given the theoretical risks of rejection and alloimmune activation. We are therefore actively studying safety and immunogenicity of this approach in the clinical trial setting for abdominal transplantation recipients with negative antibody titers and deemed low alloimmune risk by their transplantation teams (NCT05077254).

We agree that shared decision making between patient and providers regarding testing, interventions, and risk tolerance is key amid this rapidly evolving environment. These decisions matter as to how patients live their lives in the real world. A blanket statement of "stay home and avoid all societal interaction" may just not be possible for transplantation recipients, many of whom have been practicing a version of this for nearly 2 years. As physicians, we have a responsibility to help patients make informed decisions based on a combination of mechanistic understanding and available data. We strongly support adding antibody data to the decision-making process; antibody data, after all, have already guided recommendations for third vaccine doses as well as patient selection for preventative and therapeutic monoclonal antibodies. It is time for transplantation society recommendations to be more data-driven and nuanced in framing individual recipient risk assessments beyond universal social distancing and mask-wearing. We commend the author on raising important concerns that our entire transplantation community should carefully consider.

Alexandra T. Strauss, M.D., M.I.E.¹
Dorry L. Segev, M.D., Ph.D.^{2,3}
William A. Werbel, M.D.¹

¹Department of Medicine
Johns Hopkins University School of Medicine
Baltimore, MD

²Department of Surgery
Johns Hopkins University School of Medicine
Baltimore, MD
 ³Department of Epidemiology
Johns Hopkins University Bloomberg School of
Public Health
Baltimore, MD

REFERENCES

 Strauss AT, Hallett AM, Boyarsky BJ, Ou MT, Werbel WA, Avery RK, et al. Antibody response to severe acute respiratory syndromecoronavirus-2 messenger RNA vaccines in liver transplant recipients. Liver Transpl 2021;27:1852-1856.

- Mitchell J, Chiang TP-Y, Jennifer ACAA, Abedon AT, Avery RK, Ar TA, et al. Letter to the Editor: Effect of mycophenolate mofetil dosing on antibody response to SARS-CoV-2 vaccination in heart and lung transplant recipients. Transplantation 2022;106:e161-e162.
- 3) Kantauskaite M, Müller L, Kolb T, Fischer S, Hillebrandt J, Ivens K, et al. Intensity of mycophenolate mofetil treatment is associated with an impaired immune response to SARS-CoV-2 vaccination in kidney transplant recipients. Am J Transplant 2022;22:634-639.
- 4) Curtis JR, Johnson SR, Anthony DD, Arasaratnam RJ, Baden LR, Bass AR, et al. American College of Rheumatology guidance for COVID-19 vaccination in patients with rheumatic and musculoskeletal diseases: version 2. Arthritis Rheumatol 2021;73:e30-e45.
- 5) Connolly CM, Chiang T-Y, Boyarsky BJ, Ruddy JA, Teles M, Alejo JL, et al. Temporary hold of mycophenolate augments humoral response to SARS-CoV-2 vaccination in patients with rheumatic and musculoskeletal diseases: a case series. Ann Rheum Dis 2022;81:293-295.