Monoclonal antibody therapy for COVID-19 safe, effective for transplant patients

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Treating transplant patients with mild to moderate cases of COVID-19 with monoclonal antibodies is safe and helps prevent serious illness, according to a Mayo Clinic study recently published in *Open Forum Infectious Diseases*. These results are especially important because transplant patients who are infected with COVID-19 have a higher risk of severe illness and death.

"Monoclonal antibody therapy is really important for the transplant population because they are less likely to develop their own immunity. Providing them with these antibodies helps them recover from COVID-19," says Raymund Razonable, M.D., a Mayo Clinic infectious diseases specialist and the study's senior author.

The retrospective study focused on the first 73 solid organ transplant patients who received monoclonal antibody infusions for treatment of mild to moderate COVID-19 between Nov. 19, 2020, and Jan. 23 at Mayo Clinic. Eleven patients had an emergency department visit and nine patients were hospitalized. Most significantly, no patients required mechanical ventilation, died or experienced organ rejection.

"While we expected monoclonal antibody therapy would be beneficial for patients, we were pleasantly surprised by the results. Only one patient required care in the ICU for non-COVID-19 indication, and, most importantly, there were no deaths," Dr. Razonable says.

Monoclonal antibodies help prevent the virus that causes COVID-19 from attaching to human cells, which helps block the spread of infection. In fall 2020, the Food and Drug Administration authorized the emergency use of bamlanivimab and casirivimab-imdevimab to treat mild to moderate COVID-19 in patients with a high risk of becoming seriously ill. But since the safety and efficacy of these therapies for transplant patients remained unknown due to the limited clinical data, many health care institutions initially hesitated to set up infusion centers, Dr. Razonable says.

The study's results highlight the important role monoclonal antibodies can play in treating transplant patients with mild to moderate COVID-19. Knowing how best to treat these patients remains crucial given that recent studies indicate that COVID-19 vaccines are not as effective for transplant patients.

"It is important that these patients have early access to monoclonal antibody treatment," Dr. Razonable says. "Our data show the outcomes for patients are better if they get infused earlier." The study's lead author is Zachary Yetmar, M.D., Mayo Clinic. Other co-authors are Elena Beam, M.D.; Jack O'Horo, M.D.; Ravindra Ganesh, M.B.B.S., M.D.; Dennis Bierle, M.D.; Lisa Brumble, M.D.; and Teresa Seville, M.D. ? all of Mayo Clinic.

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