Dialysis patients do not develop adequate antibodies with one dose of SARS-CoV-2 vaccine

New research in CMAJ (Canadian Medical Association Journal) shows that most hemodialysis patients do not develop adequate antibodies after their first dose of SARS-CoV-2 vaccine.

“We advise that the second dose of the BNT162b2 [Pfizer] vaccine be administered to patients receiving hemodialysis at the recommended 3-week time interval, and that rigorous SARS-CoV-2 infection prevention and control measures be continued in hemodialysis units until vaccine efficacy is known,” writes Dr. Rita Suri, a nephrologist at the Research Institute of the McGill University Health Centre, Montreal, Quebec, with coauthors.

Patients receiving hemodialysis are especially vulnerable to COVID-19 as they must leave their homes three times a week for dialysis at a health care facility, and case fatality rates are 20%–30%, which is 10 times higher than in the general population.

The study included 154 patients receiving hemodialysis in Quebec (135 without and 19 with prior SARS-CoV-2 infection), 40 healthy volunteers (20 without and 20 with prior SARS-CoV2 infection) and convalescent plasma from 16 dialysis patients who survived COVID-19. Researchers measured antibody levels in the participants and found dialysis patients who were never previously exposed to COVID-19 had lower antibody levels than participants in the two control groups, even up to 8 weeks later. Antibodies were undetectable in 57% of patients receiving hemodialysis. Of the 154 patients receiving dialysis, 4 developed COVID-19 after vaccination.

“Patients receiving hemodialysis who did not respond at 4 weeks remained non-responders at 8 weeks, which is an argument against the possibility of a delayed
response in these individuals. Older patients and those on immunosuppression had even lower seroconversion rates, but even younger patients not on immunosuppression had a significantly lower seropositivity rate than controls,” write the authors. How well dialysis patients respond to the second dose of vaccine is being studied.

“Short-term antibody response after 1 dose of BNT162b2 vaccine in patients receiving hemodialysis” is published May 12, 2021.

Media contact for interviews: Fabienne Landry, media relations, MUHC, fabienne.landry@muhc.mcgill.ca

General media contact: Kim Barnhardt, CMAJ, kim.barnhardt@cmaj.ca

Please credit CMAJ, not the Canadian Medical Association (CMA). CMAJ is an independent medical journal; views expressed do not necessarily reflect those of its owner, CMA Joule Inc., a CMA company, or CMA.

© 2021 CMA Joule Inc. or its licensors | 1410 Blair Towers Place, Suite 500 Ottawa ON, K1J 9B9, 866-971-9171