

# Humoral response in hemodialysis patients stronger with mRNA-1273

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(HealthDay)—For patients undergoing hemodialysis, the severe acute

respiratory syndrome coronavirus 2 (SARS-CoV-2) mRNA-1273 vaccine elicits a stronger humoral response than the BNT162b2 vaccine, according to a study published online Feb. 3 in *CMAJ*, the journal of the Canadian Medical Association

Kevin Yau, M.D., from the Sunnybrook Health Sciences Centre in Toronto, and colleagues compared the serologic response after vaccination with BNT162b2 and mRNA-1273 (129 and 95 patients, respectively) in patients undergoing maintenance [hemodialysis](#). SARS-CoV-2 immunoglobulin G antibodies to the [spike protein](#) (anti-spike), receptor binding domain (anti-RBD), and nucleocapsid protein (anti-NP) were measured at six to seven and 12 weeks after the second vaccine dose and were compared to the median convalescent serum antibody levels from 211 controls with previous SARS-CoV-2 infection.

The researchers found that 73% of patients who received BNT162b2 and 95% who received mRNA-1273 attained convalescent levels of anti-spike antibody at six to seven weeks after two-dose vaccination. Also, 50 and 79% of those who received BNT162b2 and mRNA-1273, respectively, reached the convalescent level for anti-RBD. Anti-spike and anti-RBD levels were significantly lower in patients who received BNT162b2 than in those who received mRNA-1273 at 12 weeks after the second dose. For anti-spike, 57.4% who received BNT162b2 versus 96% who received mRNA-1273 maintained the convalescent level; for anti-RBD, the corresponding proportions were 38.5 and 63%.

"The decline in SARS-CoV-2 [antibodies](#) at 12 weeks after vaccination in those who received BNT162b2 is concerning because levels of anti-spike and anti-RBD generally correlate with levels of neutralizing antibody, which have been inferred to provide protection against symptomatic SARS-CoV-2 infection," a coauthor said in a statement.

Several authors disclosed financial ties to the pharmaceutical and health

care industries.

**More information:** Kevin Yau et al, Differences in mRNA-1273 (Moderna) and BNT162b2 (Pfizer-BioNTech) SARS-CoV-2 vaccine immunogenicity among patients undergoing dialysis, *Canadian Medical Association Journal* (2022). [DOI: 10.1503/cmaj.211881](https://doi.org/10.1503/cmaj.211881)

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