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SARS-CoV-2 vaccine effectiveness and clinical outcomes in patients undergoing hemodialysis in South Korea

AJin Cho, Young-ki Lee, Do Hyoung Kim, Hayne Cho Park
Department of Internal Medicine-Nephrology, Hangang Sacred Heart Hospital, Korea, Republic of

Objectives : Patients undergoing hemodialysis (HD) have a high risk of COVID-19 and poor clinical outcomes. This study aimed to investigate the SARS vaccine's effectiveness against COVID-19 infection and deaths in the South Korean HD population.
Methods : We conducted a retrospective cohort study to compare the incidence of COVID-19 and post-diagnosis mortality between patients who were never vaccinated and those who were fully or partially vaccinated against SARS-CoV-2. The Korean nationwide COVID-19 registry and the Korean National Health Insurance Service database were used. Adult patients without a history of COVID-19 were included between October 8, 2020, and December 31, 2021. A diagnosis of COVID-19, severe clinical events of COVID-19, and post-diagnosis death were the outcomes.
Results : Eighty-five thousand eighteen HD patients were included, of whom 69,601 were fully vaccinated, 2,213 were partially vaccinated and 13,204 were unvaccinated. Compared with the unvaccinated group, the risk of being diagnosed with COVID-19 in fully vaccinated patients decreased during the study period (adjusted odds ratio [aOR] = 0.147; 95% confidence interval [CI] = 0.135–0.159). 1,140 (1.3%) were diagnosed with COVID-19. After being diagnosis, fully vaccinated patients were significantly less likely to die than unvaccinated patients (aOR = 0.940; 95% CI = 0.901 – 0.980) and to experience severe clinical events (aOR = 0.952; 95% CI = 0.916-0.988).
Conclusions : We found that full vaccination against COVID-19 was associated with a reduced risk of COVID-19 infection and severe clinical outcomes in the South Korean HD population. The findings support the vaccination against SARS-CoV-2 in HD patients.