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Immune Responses After Third Dose of COVID-19-mRNA Vaccination in Patients with Lung Transplatation

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Organ transplant recipients had been shortage of target tools or vaccines for infection prevention before COVID-19-vaccine global release [1], whereas a recent study demonstrated that around 76 % of adult-lung-transplant recipients received induction immunosuppression [2]. A recent study on humoral immune response to third dose of COVID-19-mRNA vaccine (mRNA-1273 (Moderna) or BMT162b2 (Pfizer) vaccine) among 114 study participants of lung transplantation with first, second doses of COVID-19-mRNA vaccination immunosuppression medication [3]. The study results demonstrated that after a median of 175 days after the second dose, 22 of 24 lung-transplant recipients (LTR) with third dose vaccination revealed seroconversion (5 of 7 primary non-responders and 17 of 17 primary responders), whereas 94 % and 100 % of seroconversion in healthy controls (HCs) were detected in the first and second doses of COVID-19-mRNA vaccines, compared to only 19 % and 56 % in LTRs, respectively [3]. In consideration of T cell response against SARS-CoV-2-spike S1 and/or S2, 50 % of response was revealed among LTRs, whereas 100 % response was demonstrated among HCs.

In conclusion, a third dose of COVID-19-mRNA vaccination could be benefit in LTRs, whereas decreased humoral and cellular immune responses after two doses of COVID-19-mRNA vaccination were revealed in LTRs.

Reference

1. Altneu E, Mishkin A. COVID-19 vaccination in lung transplant recipients. Indian Journal of Cardiovascular Surgery 2022; 38 (Suppl 2) : S347-S353. DOI: https://doi.org/10.1007/s12055-022-01364-9

2. Chambers DC, Cherikh WS, Goldfarb SB, et al. The International Thoracic Organ Transplant Registry of the International Society for Heart and Lung Transplantation: thirty-fifth adult lung and heart-lung transplant report-2018; focus theme: multiorgan transplantation. J Heart Lung Transplant 2018; 37: 1169-1183.

3. Tobudic S, Benazzo A, Koblischke M, Schneider L, Blüml S, Winkler F, et al. immune response after mRNA COVID-19 vaccination in lung transplant recipients: a 6-month follow-up. Vaccines 2022; 10: 1130. DOI: https://doi.org/10.3390/vaccines10071130