

Fourth Dose of COVID-19 Vaccination in Lung Transplant Recipients

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Due to immunosuppression, lung or solid-organ-transplant (SOT) patients are at increased risk of infection-related morbidity and mortality, particularly SARS-CoV-2 (COVID-19) infection [1-4]. Dramatically, COVID-19 vaccination changed both immunocompetent- and immunosuppressed-persons landscape [5]. A recent study revealed that SOT recipients with receiving a third dose of COVID-19 vaccination demonstrated improvement of humoral-immune response, compared to patients with receiving two doses [6].

Nevertheless, currently, fourth dose of mRNA-COVID-19 vaccination in SOT recipients are being studied in France with increasing antibody response of 50% among 92 subjects at a median time of 29 days [7], whereas 63% of low titer recipients and non-responders increased antibody levels [8]. In Israel, forthcoming results of the study of fourth doses of Pfizer COVID-19 vaccine among SOT recipients are waiting [9].

In conclusion, the suitable timing and number of COVID-19 vaccination in SOT recipients remains questionable, whereas the need for a fourth dose mRNA-COVID-19 vaccine is emerging evidence.

Bibliography

- Hallett AM, et al. "SARS-CoV-2 messenger RNA vaccine antibody response and reactogenicity in heart and lung transplant recipients". *The Journal of Heart and Lung Transplantation* (2021).
- L'huillier AG, et al. "Cell-mediated immune responses after influenza vaccination of solid organ transplant recipients: secondary outcomes analyses of a randomized controlled trial". *The Journal of Infectious Diseases* 221 (2020): 53-62.
- Mazzone PJ, et al. "The humoral immune response to influenza vaccination in lung transplant patients". *European Respiratory Journal* 18 (2001): 971-976.
- Scharringa S, et al. "Vaccination and their importance for lung transplant recipients in a COVID-19 world". *Expert Review of Clinical Pharmacology* 14 (2021): 1413-1425.
- Altneu E and Mishkin A. "COVID-19 vaccination in lung transplant recipients". *Indian Journal of Thoracic and Cardiovascular Surgery* 38. 2 (2022): S347-S353.
- Efros O, et al. "Efficacy and safety of third dose of the COVID-19 vaccine among solid organ transplant recipients: a systemic review and meta-analysis". *Vaccines* 10 (2022): 95.
- Caillard S, et al. "Antibody response to a fourth messenger RNA COVID-19 vaccine dose in kidney transplant recipients: a case series". *Annals of Internal Medicine* (2022).
- Alejo JL, et al. "Antibody response to a fourth dose of a SARS-CoV-2 vaccine in solid organ transplant recipients: a case series". *Transplantation* 105 (2021): e280-e281.
- Burki TK. "Fourth dose of COVID-19 vaccines in Israel". *Lancet Respiratory Medicine* (2022).