

臓器移植患者に対する COVID-19 ワクチンに関する声明

(2021年6月2日 アップデート)

昨今、固形臓器移植患者に対する SARS-CoV-2 の mRNA ワクチンの反応について複数の調査結果が報告された (1-14)。全体として、これらは一般市民に関する報告と比較した場合、ワクチンに対する抗体反応の低下を示していた。

抗体応答率が低いのは憂慮すべきことではあるが、SOT レシピエントは他のワクチンに対する免疫応答も低いため、この結果は予想外のことでない (15)。その後のデータは、SARS-CoV-2 ワクチン接種後の B 細胞および T 細胞の反応が移植レシピエントで一致しない可能性があることを示している。おそらく移植患者においては抗体無しで T 細胞の応答を起こすことができる可能性がある。それが SARS-CoV-2 保護に関連しているかは未だ定かではない。ワクチンを 2 回接種した移植患者の中で、様々な重症度の COVID-19 罹患が報告されているが、ワクチンが多くを感染を予防し、感染の重症度を下げる可能性があることを認識することが重要である (16-19)。ワクチンの有効性、特に重症 COVID-19 の防御に関して評価するには、更なるデータが求められる。移植患者に以前インフルエンザワクチンを接種した経験では、臓器移植患者は低い抗体反応にも関わらずインフルエンザに関連する下気道疾患や入院が減少していたことが示されている (20, 21)。したがって我々は、多くの知見が得られるまでは SARS-CoV-2 ワクチンによる抗体反応率が低いことをワクチンの臨床効果が低いと結論づけないように強く警告する。これらの報告が固形臓器移植患者のワクチンに対する躊躇を駆り立てたり助長したりするものであってはならない。

免疫抑制状態の患者は活発に複製するウイルス排出が長引くことが知られており、ウイルス変異体の発生を促進する可能性がある (22)。加えて、COVID-19 に罹患した固形臓器移植患者は一般市民と比べて予後不良であることも示されている (23)。固形臓器移植患者において、ワクチンを接種することによるウイルス排泄期間や臨床経過に対する影響は未だ明らかでない。ワクチンの反応を改善する最適な方策はまだ定められていないが、現在調査が行われている。

より完全なデータが得られるまで我々は以下のことを要請する。

- 固形臓器移植待機患者のワクチン接種は可能である限りいつでも優先される。
- 固形臓器移植患者の SARS-CoV-2 ワクチン接種を継続し、これら脆弱な患者の暴露リスクを減らすために、患者の家族や介護者に対してのワクチン接種を優先する。
- より包括的なデータが得られるまでは、移植臓器の拒絶のリスクを避けるためにワクチン接種時も安定した免疫抑制療法を継続する。
- ワクチン接種の状況にかかわらず、全ての移植患者がマスクやソーシャルディスタンスなどの保護対策を忠実に続ける。(2021年5月7日, 6月2日アップデート)



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Statement on COVID-19 Vaccination in Solid Organ Transplant Recipients (Updated June 2, 2021)

Recently, multiple studies have been published examining the response to SARS-CoV-2 mRNA-based vaccines in solid organ transplant (SOT) recipients.(1-14) Overall, these have demonstrated reduced antibody responses to vaccine when compared with reports involving the general public.

The low antibody response rate is concerning but not unexpected, as SOT recipients have lower rates of immune responses to other vaccines as well.(15) Subsequent data have shown that B- and T-cell responses after SARS-CoV-2 vaccination may be discordant in transplant recipients. Patients may develop T-cell response in the absence of antibody. (3,6,9,10) The correlates of SARS-CoV-2 protection are still undefined. Although breakthrough COVID-19 cases of varying severity in fully vaccinated SOT recipients have been reported, it is important to recognize that vaccination may still prevent many infections or reduce the severity of infection.(16-19) Further data are needed to assess vaccine effectiveness, particularly its protection against severe COVID-19. Previous experience with influenza vaccination in transplant patients has demonstrated reduced influenza-related lower respiratory tract disease and hospitalization despite low antibody response. (20, 21) Thus, we strongly caution against concluding that low antibody response rate to SARS-CoV-2 vaccination will lead to reduced clinical effectiveness until more information is available. These results should not prompt or encourage vaccine hesitancy in SOT recipients.

Immunosuppressed patients are known to have prolonged viral shedding of actively replicating virus which may promote the development of viral variants.(22) Additionally, there are data to suggest worse outcomes in SOT recipients with COVID-19 compared to the general population.(23) The effect of immunization on duration of viral shedding and clinical outcomes remains unknown for this population. Optimal strategies to improve vaccine responses have not been defined but are currently under investigation.

Until more complete data are available, we urge:

- Pre-transplant vaccination of all SOT candidates as a priority whenever feasible.
- Continued SARS-CoV-2 vaccination in SOT recipients and priority for vaccination of their household members and caregivers to reduce exposure risk for these vulnerable patients.
- Continuation of a stable immunosuppression regimen at the time of vaccination to

avoid the risk of organ rejection until more comprehensive data are available.

- Continued adherence of all transplant recipients to protective measures including masking and social distancing regardless of vaccination status.

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