



# SARS-CoV-2 anti–spike antibodies after vaccination in pediatric heart transplantation: A first report

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## KEYWORDS:

pediatric heart transplant;  
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**BACKGROUND:** BACKGROUND: There is a paucity of data regarding the antibody response to SARS-CoV-2 vaccination in children after solid organ transplant.

**METHODS:** We retrospectively reviewed the SARS-CoV-2 Anti–Spike IgG antibodies measured following SARS-CoV-2 vaccination at our pediatric heart transplant (HTx) center.

**RESULTS:** Among patients (median age 17.1 years) in whom antibody testing was performed (median 118 days post-vaccine completion), a SARS-CoV-2 Anti–Spike IgG antibody was detected in 28 of 40 (70%) post-HTx recipients (median antibody level 10.9 AU/ml). Neutropenia, diabetes mellitus, and previous use of rituximab were associated with absence of a detectable antibody. All 7 post-HTx patients with a known pre-vaccination SARS-CoV-2 viral infection had a detectable SARS-CoV-2 Anti–Spike IgG. All 12 vaccinated pre-HTx patients had a detectable antibody (median antibody level 11.6 AU/ml) including 5 patients that maintained detectable antibodies post-HTx. There were no cases of myocarditis among the total of 17 pre-HTx and 81 post-HTx patients that underwent SARS-CoV-2 vaccination.

**CONCLUSION:** Our data suggest that a significant proportion of pediatric HTx recipients have no detectable antibody response after SARS-CoV-2 vaccination and support the recommendation to complete the vaccination series prior to HTx in those pediatric patients waiting for HTx.

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On August 12, 2021, the United States Food and Drug Administration modified the Emergency Use Authorizations (EUAs) for SARS-CoV-2 messenger RNA (mRNA)

vaccines to allow for administration of a third dose for certain immune-compromised people.<sup>1</sup> Thereafter, the Centers for Disease Control and Prevention's Advisory Committee

**Abbreviations:** ACIP, Advisory Committee on Immunization Practices; AST, American Society of Transplantation; EUA, Emergency Use Authorization; HTx, Heart Transplant; ISHLT, International Society for Heart and Lung Transplantation; IQR, interquartile range; mRNA, messenger RNA; SOT, solid organ transplant

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