Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Role of Immunosuppression on Efficacy of Anti-SARS-CoV-2 Vaccines in Heart Transplanted (HT) Patients

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Purpose: Vaccines against COVID-19 have a lower efficacy in HT patients (pts); factors influencing their immunogenicity are unknown. The aim of this study is to investigate the role of immunosuppression on mRNA vaccines efficacy.

Methods: We included all HT pts followed in our Center completing the vaccine cycle (03-06/21), for whom levels of IgG anti-RBD after the second dose were known, excluding those with a previous COVID infection. Demography, immunosuppression (drugs and trough blood level), lymphocyte count, previous rejection episodes were collected before the first dose. The endpoint was vaccine-induced immunization after the second dose according to our laboratory's threshold of IgG anti-RBD.

Results: Among 201 vaccinated, IgG anti-RBD values were available for 63 pts at 2± 1 months after the second dose (22±3 days after the first; 89% BNT162b2; 60±11 yrs, 5±1 yrs from HT, 75% males, 3 with rejection > 1R in the previous 6 months). All pts were on CNI-inhibitors (35% tacrolimus, TAC, 65% cyclosporine, CyA), 57% on MMF, 23% mTOR, 69% steroids (CS). 41.7% had no response to vaccine. At univariate analysis the predictors of lack of response to vaccine were: MMF (43% vs 71%), TAC vs CSA (27% vs 73%), steroids (46% vs 76%), steroid dose > 5mg, lymphocytes <18% of leukocytes (both identified by ROC), more than 5 years from HT; mTOR was more likely associated with protection (80% vs 49%), p<0.05 all. Importantly, age was not predictive of immunogenicity. At stepwise multivariate analysis all these factors maintained statistical significance (p<0.05 all). IgG anti-RBD values were influenced by low lymphocytes, steroids and TAC trough levels (p< 0.05 all).Response to vaccine was the lowest for MMF+TAC+CS (23.1%), intermediate for MMF+CyA+CS (53.3%) and steroid-free regimens (68.7%), highest (87.5%) for mTOR+CNI+CS (20%,23%,24%,23% of pts, p=0.01). No rejection episodes were registered 3 months after the second dose of vaccine.

Conclusion: While confirming a low response to COVID-19 vaccines a in HT pts, our study underscores the negative effect of immunosuppression, particularly of MMF, high doses of steroids and TAC. Given that MMF is a cornerstone of most protocols, from these results it arises the hypothesis (to be tested in larger studies) if switching stable patients from TAC to Cya or to lower steroid doses may favor the attempts to increase the response to vaccines.

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Large Variation in Heart Transplant Selection Practices During the COVID-19 Pandemic

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Purpose: A growing proportion of transplant donors and recipients have a history of COVID infection. Transplant societies issued guidelines to support decisions regarding donor selection and recipient activation after COVID infection, but outcome data are still limited. This study sought to characterize heterogeneity in current clinical practice and opinions regarding cardiac donation after recipient or donor COVID infection.

Methods: An online survey was distributed to heart transplant clinicians through a professional society message board and social media. Responses were collected between September 29 and October 18, 2021.

Results: 204 healthcare professionals from diverse geographic regions (North and South America, Europe, Middle East, Asia and Australia) completed the survey, including 143 (70%) transplant cardiologists, 42 (21%) cardiac surgeons and 19 (9%) other heart transplant clinicians. 80% of clinicians felt COVID vaccine should be mandatory before transplant. There was significant variation in clinical practice for donor acceptance and recipient management, including several scenarios directly addressed by society guidelines - see Figure 1 for a sample of responses.

Conclusion: There is significant variation in the clinical approach to common scenarios following donor or recipient COVID infection. This reflects continued uncertainty with post-transplant outcomes impacted by pre-transplant COVID infection. Granular outcome data are needed to better inform clinical decisions.