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It's good to be young: Early survival data for Covid-19 lung transplant recipients

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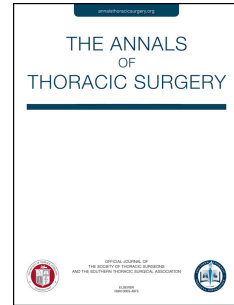
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Invited Commentary:

The article by Freischlag and colleagues explores the changing landscape of lung transplantation with the advent of a critical and growing cohort of recipients with Coronavirus Disease 2019 (Covid-19) related lung disease [1]. There remains considerable uncertainty around clinical outcomes and patient selection for lung transplantation in the setting of Covid-19 given limited experience and sparse outcomes data. The authors seek to bridge that gap in the literature by providing the longest-term follow-up data available on Covid-19 lung transplant recipients to date. The study confirms our expectations that the cohort of Covid-19 transplant recipients are more acutely ill relative to traditional lung transplant recipients with higher LAS scores, greater ECMO and ventilator dependence, and worse functional status. These high-risk findings in pre-transplant patients typically portend poor post-transplant outcomes, particularly in the early post-transplant period [2]. It is reassuring to see that, despite greater illness severity, Covid-19 recipients had excellent rates of six-month survival, similar to the matched cohort. Perhaps even more notable, the Covid-19 cohort performed similarly to the significantly less sick unmatched cohort of patients.

The authors speculate that the success in Covid-19 post-transplant outcomes may be attributable to in part to patient age. Certainly the Covid-19 cohort benefit from younger patient age and thus perhaps from having greater biological reserve for recovery. A corollary can be drawn to heart transplant and the difference in outcomes between adults with congenital heart disease versus other indications. Although CHD patients have higher perioperative mortality because of the increased complexity of reconstruction, their long-term outcomes are superior, likely due to the younger age of the patient cohort and the absence of risk factors of chronic disease (e.g.,

hypertension, hyperlipidemia, and coronary disease) [3]. Perhaps equally important, however, is the duration of illness; patients with Covid-19 have had a significantly shorter course from illness onset to transplant than most typical lung transplant recipients. Notably, although overall younger, there is a subset of the Covid-19 cohort that was more likely to have other chronic illnesses such as obesity, diabetes, and renal insufficiency. It is possible that two cohorts exist in the Covid-19 population that would behave differently in focused analyses—a younger cohort without chronic illness that contracted Covid-19 and would likely do as well or better than traditional lung recipients versus an older cohort with chronic illness that perform worse than traditional recipients given their added comorbidities.

We commend Freischlag and colleagues on this early analysis of Covid-19 transplant outcomes [1]. As we explore this new frontier in lung transplantation, the Covid-19 recipient cohort continues to grow and change, and it will be critical to continue to analyze new data to understand long-term outcomes and optimize patient selection. These results suggest that the first foray into Covid-19 lung transplantation has exceeded our expectations for success and that for Covid-19 recipients, like for most other disease states, it's good to be young.

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