



# Commentary: Referral for Lung Transplantation Should Be Carefully Decided for Patients with COVID-19 Acute Respiratory Distress Syndrome

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Lung transplantation is the only option for end-stage lung disease. However, the long-term outcomes are not favorable compared to other types of solid organ transplantation, with an expected survival of 6 to 7 years after lung transplantation. The donor shortage is also always a problem. Accordingly, candidates for lung transplantation should be carefully selected.

Common disease entities in lung transplantation candidates are idiopathic pulmonary fibrosis, cystic fibrosis, and chronic obstructive pulmonary disease, which lead to irreversible end-stage lung disease. Acute respiratory distress syndrome (ARDS) involves potentially reversible lung damage, as many patients with ARDS can recover. Patients with coronavirus disease 2019 (COVID-19)-related ARDS also should be considered as having potentially reversible damage at the time of diagnosis. The mortality rate of COVID-19-associated ARDS was 45% in the early pandemic [1].

Data and experience regarding lung transplantation in patients with ARDS are limited compared to lung transplantation for other diseases [2,3]. Lung transplantation can rescue patients with irreversibly damaged lungs from ARDS. However, the possibility of recovery from ARDS is a reason to wait before referral for lung transplantation. Case reports have stated that the inflammatory response in COVID-19 ARDS might last longer than the inflammatory response in other types of ARDS. Accordingly, refer-

als for lung transplantation in patients with COVID-19 ARDS should be more deliberate. Although limited data exist, experts in the field recommend waiting at least 4–6 weeks after the onset of respiratory failure due to COVID-19 prior to considering lung transplantation [4].

The authors' experience described here is similar to that reported from centers in Europe and North America [5]. However, the decision for referral to transplantation was quite fast. Five of 10 patients (50%) underwent lung transplantation within 50 days on extracorporeal membrane oxygenation. Given the average of 16.8 days on the waiting list, it was decided to list these 5 patients within 6 weeks. Other teams have reported lung transplantation in COVID patients many months after the original insult [6,7]. This raises a question: how did the authors know at the time of lung transplant listing that the lung injury was totally irreversible? Did these 5 patients not have the chance to recover from ARDS?

Lung transplantation is the only therapeutic option for chronic progressive end-stage lung disease. Many patients who need lung transplantation die on the waitlist because of the donor shortage. Lung transplantation could be considered for patients with COVID-19 ARDS, but sufficient time should be allowed before the referral to account for the possibility of lung recovery.



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