

Lung transplantation in patients with COVID-19- the early national experience

Objective- The aims of this analysis are to describe the early national experience of COVID-19 patients who received lung transplants (LT) and compare characteristics and short-term outcomes of non-COVID-19 acute respiratory distress syndrome (ARDS) to COVID LT recipients.

Methods- We queried the Organ Procurement and Transplantation database for adults (≥ 18 years of age) receiving LT from January 2009 to April 1, 2021 with diagnoses of ARDS (diagnosis code 402) or COVID-19 (diagnosis codes 1616, 1617, or presence of "COVID" in open text of diagnosis).

Results- We identified 88 COVID-19 LT recipients: 64% ($n = 56$) COVID-19 ARDS, 34% COVID-19 fibrosis ($n = 30$), and 2% ($n = 2$) COVID-19, unspecified. COVID-19 LT recipients were older ($p < 0.001$), more often male ($p = 0.01$), were less frequently dependent on ECMO ($p < 0.001$), had a better functional status ($p < 0.01$), and a lower mean arterial pressure at time of transplant ($p = 0.03$) than ARDS LT recipients.

Limited follow-up data (70% ($n = 66$) COVID-19 LT recipients had available follow-up data at 30-days post-transplant; 95% ($n = 59$) COVID-19 LT recipients were alive 30 days postoperatively) suggests that LT is a viable option for COVID-19 patients with irreversible organ damage.

Conclusions- As the SARS-CoV-2 pandemic continues to affect patients and families worldwide, treatment knowledge gaps persist, including the role and effectiveness of lung transplantation. Limited follow-up data suggests that though older, more predominantly male, and less severely functionally compromised at time of transplant than non-COVID-19 ARDS LT recipients, cARDS patients with evidence of irreversible lung damage respond well to LT. As the number of COVID-19 lung transplant patients increases and longer term follow up data becomes available, the role of lung transplantation in the setting of COVID-19 will become better defined and more completely understood.

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Additional Resources

- https://files.aievolution.com/prd/aat2101/abstracts/abs_1719/AATSPerioperativeOutcomesData.docx