|  |
| --- |
| **Lung Transplantation for Short-Telomere Interstitial Lung Disease: Outcomes from Australia** |
| Lai-Ying Zhang1, Viviana Lutzky1, Simon Apte1, Penelope Groves1, Maxine Tan1, Sarah Watson2, Peter Hopkins1, Daniel Chambers1, John Mackintosh1 |
| *1Queensland Lung Transplant Service, The Prince Charles Hospital, Brisbane*  *2Department of Thoracic Medicine, The Prince Charles Hospital, Brisbane* |
| **Introduction:**  Outcomes after lung transplantation in patients with short-telomere interstitial lung disease (ILD) are presently conflicting. While some studies have suggested an association with clinically significant cytopenia post transplantation and reduced CLAD-free survival, others have suggested outcomes comparable to recipients with interstitial lung disease and normal telomere length. We therefore sought to characterize the demographics and outcomes of an Australian cohort of patients with short telomeres undergoing lung transplantation for fibrosing lung disease.  **Methods:**  We performed a single-centre retrospective cohort study. We included all lung transplant recipients at the Queensland Lung Transplant Service, Australia, whom had had their peripheral blood telomere length measured via Flow-FISH and had undergone transplantation for a fibrosing lung disease.  **Results:**  A total of 52 lung transplant recipients were included in the study, with 31 patients (59.6%) demonstrated to have a short telomere length (defined as peripheral blood telomere length equivocal to or below the 10th centile). Short-telomere recipients were demographically similar to normal-telomere recipients, with no statistically significant difference in age at time of transplant, gender, or underlying pre-transplant ILD diagnosis. Short telomere length was not found to be associated with shorter time to any cytopenia, shorter time to clinically significant neutropenia (defined as neutrophil count <1.00 and/or requiring granulocyte colony stimulating factor), or cytomegalovirus viremia. Additionally, telomere length was not associated with either duration of cytopenia or duration of significant neutropenia post-transplant. No significant difference in time to chronic lung allograft dysfunction (CLAD) or death was found in short-telomere recipients compared to recipients with normal telomere length.  **Conclusion:**  In our single-centre Australian cohort, within the limits of sample size, short-telomere patients undergoing lung transplantation for fibrosing lung disease had similar outcomes to those with normal telomere length, with similar rates and severity of post-transplant bone marrow suppression and overall CLAD-free survival.  **Grant Support:**  None. |

**Key Words:**

Telomeropathy, interstitial lung disease, idiopathic pulmonary fibrosis, pulmonary fibrosis, lung transplantation.