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The Journal of Heart and Lung Transplantation

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CASE ANECDOTES, COMMENTS AND OPINIONS

Short telomere syndrome and telomere length: A clear cut-off is key

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Patients with short telomere syndrome form an at-risk group for complications following lung transplantation (LTx). Increasing evidence supports the value of identifying these individuals, for whom tailored screening and follow-up may be beneficial. The recent International Society for Heart and Lung Transplantation statement raises awareness and provides guidance in this area,[1] and the authors should be commended for this effort. Implementing the suggested recommendations in clinical practice should improve patient care and help reduce the heterogeneity of the data in this field. Still, the cut-off for short telomere length (TL) provided in the text could lead to some confusion.

The reported cut-off used for defining "short" TL varies across studies, being set at below the 10th percentile (< p10),[2] below or equal to the 10th percentile (≤p10),[3] or even below the 25th percentile.[4] Despite these variations, most studies have adopted an exclusive threshold (i.e., < p10), and this approach is further strengthened by its use in a recent international statement on familial pulmonary fibrosis.[5] Similarly, ultra-short telomeres are defined using an exclusive cut-off of TL < 1st percentile in both prior studies and the current statement. Nonetheless, the authors recommend the usage of the inclusive ≤ p10 threshold to consider short telomeres syndrome.

While the inclusion or exclusion of patients with a TL at p10 to define short TL may appear trivial from a conceptual, biological, and technical point of view, we believe this to be of importance. Including patients reported at p10 results in a substantial increase in the number of individuals with short TL in both our cohorts of idiopathic pulmonary fibrosis and LTx candidate patients evaluated by flow-fluorescence in-situ hybridization. Most studies have excluded p10 patients from their analyses, and the effect of including them on their reported results is unknown. Given the limited data in LTx in this matter, we believe that introducing additional uncertainty to an already heterogeneous field may only exacerbate its volatility. Secondly, because short telomeres are defined as a categorical variable, it is crucial to establish a clear threshold to ensure comparability across future studies. While assigning patients to the ≤p10 or < p10 category is complicated by technical uncertainty at this level of detail and the biologically continuous nature of TL, most clinical biological assessments encounter similar challenges and still define clear boundaries. Introducing even a minimally different definition in the setting of LTx will result in inconsistent patient classification, and hinder future comparative research attempts.

In conclusion, the present International Society for Heart and Lung Transplantation consensus offers a framework for standardizing clinical practice before and after LTx in patients with short telomere syndrome. Paradoxically, adopting an inclusive cut-off rather than the overall more widely used exclusive threshold will likely increase heterogeneity within the short telomere syndrome population, and a common definition should be adopted to ensure consistency in patient characterization.

Disclosure statement

TPB, MD, and FC have no conflicts of interest pertaining to this comment to report. TPB is supported by the "Fondation Mont-Godinne", FC is supported by the "Fonds de la Recherche Scientifique" (grant n° 1. L505.18).

References

1. Courtwright AM, Mackintosh JA, Alder JK, et al. ISHLT consensus statement on short telomere syndrome and lung transplantation. J Heart Lung Transpl 2025;45:e83-103.
2. Newton CA, Kozlitina J, Lines JR, Kaza V, Torres F, Garcia CK. Telomere length in patients with pulmonary fibrosis associated with chronic lung allograft dysfunction and post-lung transplantation survival. J Heart Lung Transpl 2017;36:845-53.
3. Hannan SJ, Iasella CJ, Sutton RM, et al. Lung transplant recipients with telomere-mediated pulmonary fibrosis have increased risk for hematologic complications. Am J Transpl 2023;23:1590-602.
4. Planas-Cerezales L, Arias-Salgado EG, Berastegui C, et al. Lung transplant improves survival and quality of life regardless of telomere dysfunction. Front Med (Lausanne) 2021;8:695919.
5. Borie R, Kannengiesser C, Antoniou K, et al. European Respiratory Society statement on familial pulmonary fibrosis. Eur Respir J 2023;61:2201383.

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https://doi.org/10.1016/j.healun.2026.02.1663