





Natural decline in pulmonary function following bilateral lung transplantation: a single-centre study

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After bilateral lung transplantation, the natural decline in FEV₁ is only slightly increased compared to normal physiological ageing decline in FEV₁ in healthy subjects <https://bit.ly/3pwkrqg>

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To the Editor:

Lung transplantation is an established treatment option for well-selected patients with end-stage pulmonary disease, when other therapeutic options are no longer available. Although post-transplant survival has much improved in recent years, the development of chronic lung allograft dysfunction (CLAD), which affects 40–50% of all patients by 5 years post-transplant, remains the major cause of morbidity and mortality [1]. CLAD is defined by a progressive and persistent decline in the forced expiratory volume in the first second (FEV₁) of at least 20% compared to the postoperative best value. Several different phenotypes of CLAD have been identified, based on the physiology of the lung function decline, such as obstructive (bronchiolitis obliterans syndrome; BOS), restrictive (restrictive allograft syndrome) or a combination (mixed phenotype), along with the presence or absence of persistent opacities on chest imaging [2, 3]. One of the problems that may arise when interpreting post-transplant lung function decline is that the natural decline in FEV₁ after lung transplantation is unknown at present. Indeed, normal physiological ageing is characterised by a progressive decline in FEV₁, and in long-term follow up studies (>10 years,) the decline in FEV₁ in healthy individuals varied between 17.7 and 46.4 mL per year (median 22.4 mL per year) [4]. Furthermore, it is also known that physiologically ageing lungs may become slightly obstructive [5], at least in part due to loss of small airways [6]. This is now taken into account when using the Global Lung Function Initiative predictive lung function parameters [7]. As a consequence, in lung transplant patients with a long-term follow up (>10 years), the ageing-related decline in FEV₁ may at some time confound the diagnosis of CLAD.