

TORAKS 2018

8. Kongres Hrvatskog
torakalnog društva

8th Congress of Croatian
Thoracic Society

18.–21. travanj | april
Hotel Westin Zagreb



HOW SHOULD LUNGS BE ALLOCATED FOR TRANSPLANT

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Objective: Introduction: Lung transplantation remains the only therapeutic option associated with both improved quality of life and chances of survival for patients with end-stage lung disease. During the last 30 years more than 46,000 transplantations have been performed worldwide. Despite improving results, these procedures are limited by the shortage of available and suitable donor lungs. The Lung Allocation Score (LAS) was first implemented in Eurotransplant in December 2011, replacing an allocation system based on urgency status and accumulated waiting time. The LAS distributes donor lungs to patients who have the highest predicted risk of death on the waiting list and, at the same time, the best survival rate 1 year after transplantation. Lungs are, therefore, allocated preferably to patients in critical conditions, thereby successfully decreasing pretransplant mortality and reducing overall waiting time.

Methods: We retrospectively analysed data of patients listed for and receiving a lung transplant between January 2012 and December 2017. Data were analysed differentially according to underlying pulmonary diagnosis: obstructive lung disease, e.g. chronic obstructive pulmonary disease (COPD) or emphysema; interstitial lung disease (ILD), e.g. idiopathic pulmonary fibrosis; cystic fibrosis (CF), pulmonary hypertension (PAH) and others. **Results:** A total of 52 patients were newly listed for lung transplantation after the LAS implementation in January 2012 until the end of 2017. Their clinical profiles were translated into the LAS according to the Eurotransplant business rules. Waitlist characteristics were analysed point by point at the end of each year between 2012 and 2017. We noted a reduction in the overall mean LAS in lung transplant candidates over the years. The mean LAS of lung transplant candidates was 39.4 ± 7.7 at the end of 2012 and decreased throughout the study to 31.6 ± 4.7

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at the end of 2017. The decrease over the years was statistically not significant ($P = 0.642$). The waiting times of transplanted patients were generally heterogeneous. The overall mean time between admission on the waiting list and transplantation was 172 ± 183 days (range 1–570 days). The waiting times increased over the observation period from 91 ± 76 to 244 ± 189 , but all the differences were statistically not significant ($P = 0.27$).

Conclusion: Our centre-specific 5-year experience confirms previous findings demonstrating that the LAS is a well-established tool for the selection of lung transplant candidates, respecting urgency and prognostic transplant benefit in a disease-specific manner. However, the LAS did not shorten overall waiting times in transplanted patients. Further long-term and multicentre data with respect to different transplant centre activities have to be gathered for further evaluation.