Korean J Transplant 2020;34 Supple 1:S5
https://doi.org/10.4285/ATW2020.OP-1274

KJT

pISSN 2671-8790
eISSN 2671-8804

Performance changes following the revision of organ allocation system of lung transplant: analysis of Korean Network for Organ Sharing (KONOS) data

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Background: There is currently a lack of data reporting the assessment of transplant performances based on revision of the current lung allocation system in Korea.
Methods: We conducted a retrospective analysis of transplant candidates and transplant patients registered in Korean Network for Organ Sharing between July 2015 and July 2019. Study periods were classified according to the introduction of the revised lung allocation system as follows: period 1 from July 2015 to June 2017 and period 2 from August 2017 to July 2019.
Results: During the study period, a total of 627 patients were on the waiting list, of which 398 lung transplantations were performed. Total waiting list size increased by 98.6% from 210 in period 1 to 417 in period 2. The number of transplant patients also increased by 32.7% from 171 in period 1 to 227 in period 2. The number of donors decreased from 1,042 to 878, whereas the usage rate, i.e., the number of lung donors used for transplantation among the total number of reported lung donors, increased from 16.4% to 25.9%. The use of marginal donor lungs increased from 29.8% to 53.7% (P<0.001). No significant difference was observed in mortality on the waiting list between the two periods (17.1% vs. 19.4%, P=0.489). The 1-year survival rate also showed no significant differences between the two periods.
Conclusions: The recent revision of the lung allocation system in Korea did not change the performance of lung transplant in terms of waiting list mortality and 1-year survival. The rapid increase in the volume of waiting list between the two periods increased the waitlist time, transplantation of high-urgency patients, and use of marginal lung donors.

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