

Lung transplantation has come a long way since the first attempt of transplant surgery in humans performed by Dr. James Hardy and his team in 1963 and the world's first successful long-term single lung transplantation performed by Dr. Joel Cooper in 1983 (1). Over the past three decades, immunosuppression, lung donor selection criteria and surgical techniques have improved greatly. In this new book, *Advances in Lung Transplantation*, we aim to provide an overview of recent advances in lung transplantation.

The first article on lung transplantation at Duke provided Duke University Medical Center's rich experience on management strategies for lung transplantation. Transplant surgeons at Duke University Medical Center are experienced in single and double lung transplants, as well as multi-organ transplants and more than 1,600 lung transplants have been performed at Duke since 1992 (2). Through this paper, we could learn more novel knowledge from other center besides our accepted ones.

Immunosuppressive regimens have been playing an important role in reducing acute and chronic rejection after lung transplantation, however, though improvements have been made in immunosuppressive therapy, the long-term outcomes are not satisfactory enough (3). Better agents and regimens are needed to solve the above issue for lung transplant recipients (4).

It is well known that conventional criteria for lung donation was very strict including requirements like clear chest radiographic findings, without lung or cardiac disease and age less than 40, and so on. In order to increase the availability of donor organs, extended criteria has been employed by many centers. In the donor selection criteria article, individual factors that may impact outcomes of lung transplantation were examined and it tried to improve our understanding of the context of ideal criteria (5).

With the rapid development of surgical techniques, we are pleased to see that the incision is getting smaller and the hospital stay is dramatically shortened. Though great progress has been made over the past years, scientists never stop the exploration of mysteries. Experts keep examining the mechanisms of high failure rate of pulmonary grafts in mouse, further study ex vivo lung perfusion (EVLP) and so on. In this book, several articles were included to give a review on these technical problems.

Hopefully this book will be helpful for lung transplant surgeons and we looking forward to having more innovations in the second edition of the book in the future!

References

1. Venuta F, Van Raemdonck D. History of lung transplantation. *J Thorac Dis* 2017;9(12):5458-5471.
2. Gray AL, Mulvihill MS, Hartwig MG. Lung transplantation at Duke. *J Thorac Dis* 2016;8(3):E185-E196.
3. Afshar K. Future direction of immunosuppression in lung transplantation. *Curr Opin Organ Transplant*. 2014;19(6):583-590.
4. Scheffert JL, Raza K. Immunosuppression in lung transplantation. *J Thorac Dis* 2014;6(8):1039-1053.
5. Chaney J, Suzuki Y, Cantu E III, et al. Lung donor selection criteria. *J Thorac Dis* 2014;6(8):1032-1038.



Heng Zhao, MD, PhD
Shanghai Chest Hospital, Shanghai Jiao Tong University,
Shanghai, China