Adult Lung Transplantation in the U.S.

Erika D. Lease, MD, FCCP University of Washington





Disclosures



Objectives

- > Review primary indications for a lung transplant and the range of disease states at the time of transplantation
- > Discuss survival after lung transplantation and how it varies by underlying diagnosis
- > Consider post-transplant issues that may limit life expectancy and functional status

ISHLT Registry: Adult Lung Transplants Number of Transplants by Year and Procedure Type



SRTR Registry: U.S. Data on Lung Transplantation



Figure LU 51. Overall lung transplants. All lung transplant recipients, including adult and pediatric, retransplant, and multi-organ recipients.

Major Disease Categories Requiring Lung Transplantation

> COPD

- Slowly progressive course with intermittent exacerbations of acute illness
- Generally very low lung function
- May or may not be on oxygen at rest, generally require oxygen with exertion
- > Pulmonary fibrosis (and other interstitial lung disease)
 - Generally more rapidly progressive course diagnosis to transplant within a few years
 - May be on high amounts of oxygen commonly 10-15L, sometime 25L or more

> Cystic fibrosis

- Lifelong disease with accumulation of lung damage
- Frequent exacerbations of acute illness
- > Pulmonary hypertension
 - Generally requiring continuous IV therapy
 - Can develop heart failure

ISHLT Registry: Adult Lung Transplants Major Diagnoses by Year (Number)



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SRTR Registry: U.S. Data on Lung Transplantation



Figure LU 53. Total lung transplants by age. All lung transplant recipients, including adult and pediatric, retransplant, and multi-organ recipients.

ISHLT Registry: Adult Lung Transplants Kaplan-Meier Survival by Era





Post-Transplant Issues

- > Recovery from a major thoracic surgery
- > Recovery from pre-transplant lung disease
- > Adjustment to transplant medications
- > Early post-transplant complications
- > Later post-transplant complications

SRTR Registry: U.S. Data on Lung Transplantation

Event	One-year		Five-year	
	N	Pct	N	Pct
BOS				
None reported	5744	90.0%	1774	56.9%
Reported	456	7.1%	1342	43.0%
Unknown	185	2.9%	2	0.1%
Creatinine > 2.5 mg/dl	272	4.3%	418	13.4%
Chronic dialysis	113	1.8%	98	3.1%
Renal transplant	8	0.1%	24	0.8%
Diabetes	508	8.0%	467	15.0%
Malignancy	234	3.7%	752	24.1%
Re-hospitalization	3220	50.4%	2434	78.1%

Table LU 9 Posttransplant events among lung transplant recipients aged18 years or older.Posttransplant morbidities are recorded on the OPTNTransplant Recipient Follow-up Form and are included in the table if they were
reported anytime on or before 1-year and 5-year follow-up. One-year events
are reported for recipients in 2016-2018 and 5-year events for recipients in UNIVERSITY of WASHINGTON
per transplant.2012-2014.Recipients of more than one transplant are counted separately

Conclusions

- > Lung transplantation is an evolving field with improving survival overall
- > Survival after lung transplantation is limited age and comorbidities may play a role but chronic lung allograft dysfunction is the biggest contributor to morbidity and mortality, with no effective treatments
- > Even with a significant improvement in quality of life and functional status, lung transplant recipients have a new set of "problems" resulting in frequent medical care