

Risk Factors of Delayed Catastrophic Intra-Abdominal Complications after Lung Transplant: A Review of the UNOS Database John P. Skendelas, Dhaval Chauhan, Joshua J. Lee, Harish Seethamraju, Scott A. Scheinin, Stephen J. Forest

PURPOSE

Intra-abdominal complications resulting in mortality (IAC) are common among the lung transplant population. We sought to identify risk factors associated IAC 90 days following lung transplant. These data were compared to the remaining UNOS database.



Table 1. Descriptive Statistics

	Intra-Abdominal Complication (n=83)	Control (n=12249)	P-Value
Recipient age, years (IQR)	62.0 (11.0)	59.0 (15.0)	0.004
Donor age, years (IQR)	28.0 (26.0)	32.0 (25.0)	0.244
Male (%)	45 (54)	5048 (41)	0.399
Female (%)	38 (46)	7201 (59)	
Thoracic diagnosis (%)			
COPD	29 (34.9)	3480 (28.4)	
IPF / ILD	24 (28.9)	4513 (36.8)	
Acquired, other	8 (9.6)	2015 (16.4)	
CF	13 (15.7)	1562 (12.8)	
Congenital, other	8 (9.6)	499 (4.1)	
Unknown	1 (1.2)	180 (1.5)	
Double transplant (%)	56 (67.5)	8028 (65.5)	0.812
Ischemia time, hours (IQR)	4.95 (2.07)	4.82 (2.17)	0.222
Double	5.51 (1.87)	5.45 (1.98)	0.605
Single	3.83 (1.86)	4.05 (1.62)	0.030
Length of Stay, days (IQR)	22.0 (28.0)	15.0 (14.0)	0.012
Double	25.0 (39.0)	17.0 (15.0)	< 0.001
Single	14.0 (16.0)	13.0 (10.0)	0.259
Intra-abdominal diagnosis (%)			
C. difficile colitis	18 (21.7)		
Perforation	15 (18.1)		
Ischemia	15 (18.1)		
Obstruction	7 (8.4)		
Diverticulitis	4 (4.8)		
Hepatobiliary	3 (3.6)		
Other	21 (25.3)		

IQR – interquartile range; COPD – chronic obstructive pulmonary disease; IPF - interstitial pulmonary fibrosis; ILD – interstitial lung disease; CF – cystic fibrosis

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METHODS Contro

(n=12249, 99.3%)



Kaplan-Meier survival curves are shown for intra-abdominal complications subgroup (IAC) and the remaining cohort (control) for all lung transplants (left) and only patients who died (right). Median (dotted) and 90 day (red dashed) survival are indicated; log rank (p < 0.001).

Fig 2. Adjusted Survival Analyses



Kaplan-Meier survival curves are shown for intra-abdominal complications subgroup (IAC) and the remaining cohort (control) for all lung transplants with greater than 90 day survival (left) and only patients who died (right). Median survival is indicated (dotted); log rank (p < 0.001).

Table 2. Multivariate Logistic Regression for Intra-Abdominal Complication

Recipient age

Male sex reference = fema

Double transplan (reference = single)

Length of stay at in hospitalization

Ischemia time

Multivariate logistic regression model for intra-abdominal complication was performed for all patients with survival greater than 90 days.

Intra-abdominal co

Univariate cox regression model for mortality was performed for patients with survival greater than 90 days and with known mortality.

Catastrophic IAC remain a challenging complication following lung transplantation and its investigation is very limited. For affected patients, intraabdominal problems may confer significant early and overall mortality. Increased length of stay on index hospitalization was the strongest identified risk factor for development of IAC related deaths following lung transplantation.



	Odds Ratio [95% Confidence Interval]	P-Value
	1.026 [1.004-1.049]	0.020
	0.709 [0.451-1.115]	0.136
	1.604 [0.933-2.758]	0.087
ex	1.006 [1.002-1.011]	0.005
	0.869 [0.744-1.015]	0.076

Table 3. Cox Regression for Mortality

	Hazard Ratio [95% Confidence Interval]	P-Value
nplication	1.327 [1.067-1.650]	0.011

CONCLUSION