Table S1 The comparisons of variables between the validation data set and development data set

Variables	Development data set	Validation data set	$\chi^2/t/Z$	P
ECMO			<0.001	0.988
Yes	69 (41.6)	34 (41.5)		
No	97 (58.4)	48 (58.5)		
Gender			0.750	0.386
Male	139 (83.7)	65 (79.3)		
Female	27 (16.3)	17 (20.7)		
CHD	9 (5.4)	8 (9.8)	1.615	0.204
DM	13 (7.8)	13 (15.9)	3.764	0.052
Hypertension	10 (6.0)	11 (13.4)	3.868	0.049
Smoking	103 (62.0)	47 (57.3)	0.514	0.473
Diagnosis			1.198	0.945
COPD	50 (30.1)	24 (29.3)		
NSIP	48 (28.9)	28 (34.1)		
Silicosis	10 (6.0)	5 (6.1)		
Bronchiectasis	12 (7.2)	5 (6.1)		
IPF	31 (18.7)	15 (18.3)		
Lymphangiomyoma	15 (9.0)	5 (6.1)		
Surgical type			0.123	0.940
Double-LTx	62 (37.3)	32 (39.0)		
Right-LTx	50 (30.1)	23 (28.0)		
Left-LTx	54 (32.5)	27 (32.9)		
Log pro-BNP	5.19±1.64	5.34±1.54	−0.683	0.495
Log CKMB	2.42±0.56	2.47±0.48	−0.767	0.444
Log c-TnI	−5.13±2.39	−5.18±2.62	0.136	0.892
ALT (U/L)	24.88±27.52	25.21±29.74	−0.086	0.931
ALB (g/L)	36.15±5.58	35.10±4.41	1.604	0.110
TBIL (µmol/L)	10.10±4.66	11.06±5.58	−1.433	0.153
BUN (mmol/L)	5.93±5.95	5.60±3.58	0.545	0.586
SCr (µmol/L)	67.93±20.10	65.92±19.29	0.751	0.454
WBC (10^9/L)	9.87±8.39	9.16±3.30	0.96	0.338
NEUT	71.72±12.83	73.64±11.74	−1.142	0.255
Hb (g/L)	119.63±23.51	122.66±21.54	−0.981	0.328
PCT (ng/mL)	0.45±2.66	0.22±0.30	1.086	0.279
pH	7.37±0.06	7.38±0.05	−0.726	0.468
$PaCO_2$ (mmHg)	53.30±12.44	50.11±11.45	1.954	0.052
PaO_2 (mmHg)	116.04±49.74	105.35±39.00	1.849	0.066
HR (beats/minute)	91.35±14.04	90.13±15.23	0.628	0.531
MAP (mmHg)	91.92±11.87	94.52±14.34	−1.419	0.158
SpO_2 (%)	97.01±4.23	95.36±7.07	1.95	0.054
PASP (mmHg)	43.60±12.83	45.33±13.09	−0.995	0.321
P_{PEAK} (mmHg)	26.25±6.38	26.50±6.29	−0.288	0.774

Data are presented as mean ± standard deviation or n (%). ECMO, extracorporeal membrane oxygenation; CHD, coronary heart disease; DM, diabetes mellitus; COPD, chronic obstructive pulmonary disease; NSIP, nonspecific interstitial pneumonia; IPF, idiopathic pulmonary fibrosis; LTx, lung transplantation; pro-BNP, pro-B-type natriuretic peptide; CKMB, creatine kinase isoenzyme-MB; c-TnI, cardiac troponin I; ALT, alanine aminotransferase; ALB, albumin; TBIL, total bilirubin; BUN, blood urea nitrogen; SCr, serum creatinine; WBC, white blood cell; NEUT, neutrophil ratio; Hb, hemoglobin; PCT, procalcitonin; pH, potential of hydrogen; $PaCO_2$, partial pressure of carbon dioxide in artery; PaO_2, arterial partial pressure of oxygen; HR, heart rate; MAP, mean arterial pressure; SpO_2, saturation of pulse oximetry; PASP, pulmonary artery systolic pressure; P_{PEAK}, peak airway pressure.

Table S2 The comparisons of variables between the low-, moderate-, and high-risk groups

variables	Low-risk groups	Moderate-risk groups	High-risk groups	$\chi^2/t/Z$	P
ECMO				75.980	<0.001
Yes	5 (6.9)	51 (43.2)	48 (82.8)		
No	67 (93.1)	67 (56.8)	10 (17.2)		
Gender				47.594	<0.001
Male	71 (98.6)	102 (86.4)	31 (53.4)		
Female	1 (1.4)	16 (13.6)	27 (46.6)		
CHD	8 (11.1)	7 (5.9)	2 (3.4)	3.254	0.196
DM	4 (5.6)	12 (10.2)	10 (17.2)	4.698	0.095
Hypertension	12 (16.7)	7 (5.9)	2 (3.4)	8.460	0.015
Smoking	65 (90.3)	69 (58.5)	16 (27.6)	53.203	<0.001
Diagnosis				194.007	<0.001
COPD	63 (87.5)	11 (9.3)	0 (0)		
NSIP	6 (8.3)	47 (39.8)	23 (39.7)		
Silicosis	0 (0)	12 (10.2)	3 (5.2)		
Bronchiectasis	0 (0)	7 (5.9)	10 (17.2)		
IPF	0 (0)	28 (23.7)	18 (31.0)		
Lymphangiomyoma	3 (4.2)	13 (11.0)	4 (6.9)		
Surgical type				63.709	<0.001
Double-LTx	6 (8.3)	44 (37.3)	44 (75.9)		
Right-LTx	34 (47.2)	35 (29.7)	4 (6.9)		
Left-LTx	32 (44.4)	39 (33.1)	10 (17.2)		
Log pro-BNP	4.94±1.13	5.03±1.50	6.03±1.79	9.841	<0.001
Log CKMB	2.56±0.51	2.36±0.52	2.45±0.58	3.414	0.034
Log c-TnI	−5.24±2.40	−5.56±2.36	−4.20±2.51	6.278	0.002
ALT (U/L)	23.57±18.34	24.38±23.08	28.00±43.87	0.446	0.641
ALB (g/L)	37.44±5.05	35.47±5.57	34.43±4.23	5.978	0.003
TBIL (µmol/L)	9.66±3.91	10.80±5.34	10.57±4.99	1.211	0.300
BUN (mmol/L)	5.67±3.34	6.19±6.95	5.27±2.67	0.634	0.531
SCr (µmol/L)	67.18±17.75	68.71±19.87	64.45±22.07	0.897	0.409
WBC (10^9/L)	9.83±10.46	9.46±5.82	9.74±3.67	0.068	0.934
NEUT	73.92±11.68	70.81±13.41	73.56±11.28	1.752	0.176
Hb (g/L)	117.72±19.00	122.16±24.66	121.14±23.56	0.858	0.425
PCT (ng/mL)	0.19±0.30	0.54±3.17	0.24±0.30	0.713	0.491
pH	7.37±0.05	7.38±0.05	7.38±0.07	0.868	0.421
$PaCO_2$ (mmHg)	55.89±13.89	50.05±11.07	52.19±11.23	5.310	0.006
PaO_2 (mmHg)	110.28±33.79	119.88±53.15	100.27±44.05	3.624	0.028
HR (beats/minute)	91.29±14.15	90.17±14.34	92.12±15.06	0.383	0.682
MAP (mmHg)	96.77±13.14	93.05±12.88	87.274±9.98	9.556	<0.001
SpO_2 (%)	97.70±3.90	96.82±4.80	94.21±7.20	7.624	0.001
PASP (mmHg)	36.74±8.59	44.63±10.11	52.47±16.76	29.474	<0.001
P_{PEAK} (mmHg)	25.03±6.78	26.13±6.08	28.36±5.86	4.681	0.010

Data are presented as mean ± standard deviation or n (%). ECMO, extracorporeal membrane oxygenation; CHD, coronary heart disease; DM, diabetes mellitus; COPD, chronic obstructive pulmonary disease; NSIP, nonspecific interstitial pneumonia; IPF, idiopathic pulmonary fibrosis; LTx, lung transplantation; pro-BNP, pro-B-type natriuretic peptide; CKMB, creatine kinase isoenzyme-MB; c-TnI, cardiac troponin I; ALT, alanine aminotransferase; ALB, albumin; TBIL, total bilirubin; BUN, blood urea nitrogen; SCr, serum creatinine; WBC, white blood cell; NEUT, neutrophil ratio; Hb, hemoglobin; PCT, procalcitonin; pH, potential of hydrogen; $PaCO_2$, partial pressure of carbon dioxide in artery; PaO_2, arterial partial pressure of oxygen; HR, heart rate; MAP, mean arterial pressure; SpO_2, saturation of pulse oximetry; PASP, pulmonary artery systolic pressure; P_{PEAK}, peak airway pressure.