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Supplementary Material



Interstitial Lung Disease Associated Acute Respiratory Failure Requiring Invasive Mechanical Ventilation: A Retrospective Analysis

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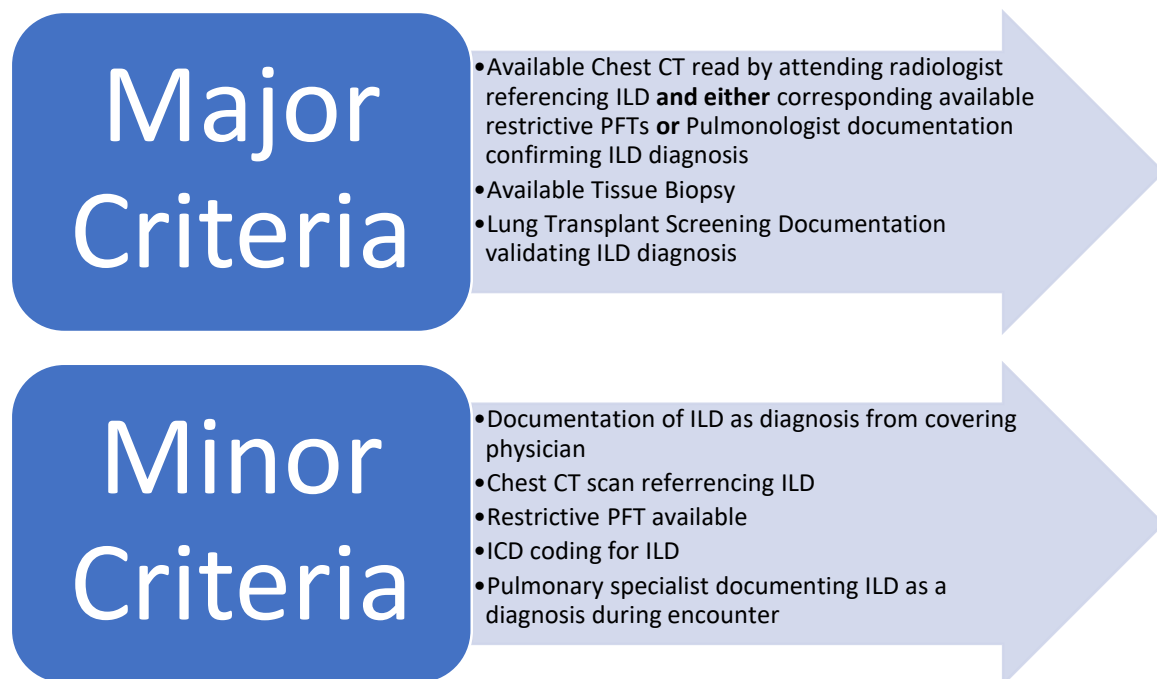
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SUPPLEMENTARY TABLE AND FIGURE



Supplementary Fig. 1. Major and Minor Criteria for Inclusion.

Supplementary Table 1. Determinants of In-Hospital Mortality.

<u>Variables</u>	<u>Total</u>	<u>p-value</u>	<u>NIPPV prior to IMV</u>	<u>IMV only</u>	<u>p-value</u>
All Patients	N=54 Deaths 34 (63.0%)		N=27 Deaths 17 (63.0%)	N=27 Deaths 17 (63.0%)	1.00
	Deaths/n		Deaths/n	Deaths/n	
Diastolic Dysfunction		0.77			
Present	15/23 (65.2%)		6/9 (66.7%)	6/9 (66.7%)	1.00
Not present	15/25 (60.0%)		9/14 (64.3%)	9/14 (64.3%)	0.70
Pulmonary Arterial Systolic Pressure		1.00			
<45	11/17 (64.7%)		8/11 (72.7%)	3/6 (50.0%)	0.60
45+	14/22 (63.6%)		5/10 (50.0%)	9/12 (75.0%)	0.38
Peak Tricuspid Regurgitant Velocity		0.31			
<2.9m/s	9/16 (56.3%)		4/8 (50.0%)	5/8 (62.5%)	1.00
+2.9m/s	14/19 (73.7%)		6/9 (66.7%)	8/10 (80.0%)	0.63
Tricuspid Annular Plane Systolic Excursion		0.25			
<1.8	7/9 (77.8%)		5/5 (100.0%)	2/4 (50.0%)	0.17
+1.8	11/21 (52.4%)		4/8 (50.0%)	7/13 (53.8%)	1.00
Right Atrial Pressure		0.75			
<6	9/15 (60.0%)		5/7 (71.4%)	4/8 (50.0%)	0.61
6+	22/33 (66.7%)		10/17 (58.8%)	12/16 (75.0%)	0.46
Days in ICU		0.78			
0-14	18/27 (66.7%)		10/13 (76.9%)	8/14 (57.1%)	0.42
15+	16/27 (59.3%)		7/14 (50.0%)	9/13 (69.2%)	0.44
Days in Hospital		0.010			
0-20	22/27 (81.5%)		12/14 (85.7%)	10/13 (76.9%)	0.65
21+	12/27 (44.4%)		5/13 (38.5%)	7/14 (50.0%)	0.70

Legend: Column 3 represents p-value for the mortality of the total number of patients as a comparison of death rate prior to cohort stratification. Column 6 represents p-values for mortality of patients compared within each strata of both NIPPV prior to IMV and IMV only.

Supplementary Table 2. Determinants of One-Year Mortality.

<u>Variables</u>	<u>Total</u>	<u>p-value</u>	<u>NIPPV prior to IMV</u>	<u>IMV only</u>	<u>p-value</u>
All Patients	N=54 Deaths 34 (63.0%)		N=27 Deaths 17 (63.0%)	N=27 Deaths 17 (63.0%)	1.00
	Deaths/n		Deaths/n	Deaths/n	
Diastolic Dysfunction		0.29			
Present	20/23 (87.0%)		8/9 (88.9%)	12/14 (85.7%)	1.00
Not present	18/25 (72.0%)		11/14 (78.6%)	7/11 (63.6%)	0.66
Pulmonary Arterial Systolic Pressure		1.00			
<45	14/17 (82.4%)		10/11 (90.9%)	4/6 (66.7%)	0.51
45+	19/22 (86.4%)		8/10 (80.0%)	11/12 (91.7%)	0.57
Peak Tricuspid Regurgitant Velocity		0.31			
<2.9m/s	13/16 (81.3%)		7/8 (87.5%)	6/8 (75.0%)	1.00
+2.9m/s	18/19 (94.7%)		8/9 (88.9%)	10/10 (100.0%)	0.47
Tricuspid Annular Plane Systolic Excursion		1.00			
<1.8	7/9 (77.8%)		5/5 (100.0%)	2/4 (50.0%)	0.17
+1.8	17/21 (81.0%)		6/8 (75.0%)	11/13 (84.6%)	0.62
Right Atrial Pressure		1.00			
<6	12/15 (80.0%)		6/7 (85.7%)	6/8 (75.0%)	1.00
6+	27/33 (81.8%)		14/17 (82.4%)	13/16 (81.3%)	1.00
Days in ICU		0.29			
0-14	20/27 (74.1%)		11/13 (84.6%)	9/14 (64.3%)	0.38
15+	24/27 (88.9%)		12/14 (85.7%)	12/13 (92.3%)	1.00
Days in Hospital		0.010			
0-20	22/27 (81.5%)		12/14 (85.7%)	10/13 (76.9%)	0.65
21+	22/27 (81.5%)		11/13 (84.6%)	11/14 (78.6%)	1.00

Legend: Column 3 represents p-value for the mortality of the total number of patients as a comparison of death rate prior to cohort stratification. Column 6 represents p-values for mortality of patients compared within each strata of both NIPPV prior to IMV and IMV only.

Supplementary Table 3. In-hospital mortality of Patients with and without PH

Variables	Total	p-value	PH	No PH	p-value
All Patients	N=54 Deaths 34 (63.0%)		N=28 Deaths 18 (64.3%)	N=26 Deaths 16 (61.5%)	1.00
	Deaths/n		Deaths/n	Deaths/n	
Age		0.15			
<65	11/22 (50.0%)		3/10 (30.0%)	8/12 (66.7%)	0.20
65+	23/32 (71.9%)		15/18 (83.3%)	9/14 (57.1%)	0.13
Gender		1.00			
Female	15/24 (62.5%)		7/13 (53.8%)	8/11 (72.7%)	0.42
Male	19/30 (63.3%)		11/15 (73.3%)	8/15 (53.3%)	0.45
ILD Subtype		0.027			
IPF	7/8 (87.5%)		6/7 (85.7%)	1/1 (100.0%)	1.00
CTDs	12/17 (70.6%)		3/6 (50.0%)	9/11 (81.8%)	0.28
Sarcoidosis	1/7 (14.3%)		0/3 (0.0%)	1/4 (25.0%)	1.00
Other	14/22 (63.6%)		9/12 (75.0%)	5/10 (44.4%)	0.38
ILD Duration		0.046			
ILD <1 year	19/24 (79.2%)		9/13 (69.2%)	10/11 (90.9%)	0.33
ILD ≥1 year	15/30 (50.0%)		9/15 (60.0%)	6/15 (40.0%)	0.47
Peak Tricuspid Regurgitation		0.31			
<2.9	9/16 (56.3%)		3/5 (60.0%)	6/11 (54.5%)	1.00
2.9+	14/19 (73.7%)		12/16 (75.0%)	2/3 (66.7)	1.00
Right Atrial Pressure		0.75			
<6	9/15 (60.0%)		2/4 (50.0%)	7/11 (63.6%)	1.00
6+	22/33 (66.7)		14/22 (63.6%)	8/11 (72.7%)	0.71
Supplemental O2		0.049			
Prescribed	12/25 (48.0%)		7/14 (50.0%)	5/11 (45.5%)	1.00
Not prescribed	22/29 (75.9%)		11/14 (78.6.0%)	11/15 (73.3%)	1.00
Vasopressor		0.043			
Used	30/44 (68.2%)		15/24 (62.5%)	15/20 (75.0%)	0.52
Not used	2/8 (25.0%)		2/3 (66.7%)	0/5 (0.0%)	0.11
Steroid Use		0.001			
Pulse/Stress Dose	19/22 (86.4%)		9/11 (81.8%)	10/11 (90.9%)	1.00
Other Dose	10/26 (38.5%)		5/13 (38.5%)	5/13 (38.5%)	1.00

Legend: Column 3 represents p-value for the mortality of the total number of patients as a comparison of death rate prior to cohort stratification. Column 6 represents p-values for mortality of patients compared within each strata of both NIPPV prior to IMV and IMV only.

Supplementary Table 4. General ICU and Ventilation Data for All Included Patients.

Variables	n	Mean (sd)
Days in ICU	54	17.94 (16.73)
Days in Hospital	54	22.17 (17.01)
Days on IMV	54	13.61 (15.40)
Days on PPV	54	14.33 (15.23)
Set Respiratory Rate	29	24.69 (6.86)
Tidal Volume (ml)	26	375.38 (71.85)
PEEP	41	7.67 (3.04)
FiO2	41	55.12 (22.29)
Peak Airway Pressure	35	30.31 (9.83)
Average Airway Pressure	37	14.57 (5.14)
Pa/FiO2	42	224.82 (144.70)

Supplementary Table 5. Subtypes of ILD.

ILD Subtype	Number (Total 54)	Percent of Cohort
IPF	8	14.8%
Sarcoidosis	7	13.0%
Scleroderma	7	13.0%

(Supplementary Table 5) contd.....

ILD Subtype	Number (Total 54)	Percent of Cohort
CTD associated	10	18.5%
NSIP	3	5.6%
COP	1	1.9%
Drug related	2	3.7%
Unclear	16	29.6%

Supplementary Table 6. Causes of ARF.

Etiology	Number (Total 54)	Percent of Cohort
Pneumonia related Sepsis	33	61.1%
ILD exacerbation	9	16.6%
Non-pneumonia related Sepsis	2	3.7%
Congestive Heart Failure	1	1.9%
Pneumothorax	2	3.7%
Pulmonary Emboli	1	1.9%
Unclear	6	11.1%

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