Table S1: Patient characteristics of immunocompromised (Study) patients according to the type of ventilatory support

	IMV (n=462)	NIV (n=63)	NIV failure (n=59)	p value
Sex, age and BMI				
Women, n (%)	198 (42.9)	27 (42.9)	22 (37.3)	0.7139
Age (years), mean ± SD	59.7 ± 15.5	65.2 ± 16.5*	59.7 ± 14.3	**0.0158**
BMI (kg/m^2), mean ± SD	25.7 ± 6.0	24.7 ± 5.4	24.3 ± 4.8	0.1140
Co-morbidities, n (%)				
COPD	69 (14.9)	12 (19.0)	4 (6.8)	0.1392
Diabetes mellitus	72 (15.6)	10 (15.9)	8 (13.6)	0.9157
Hearth failure (NYHA classes III-IV)	24 (5.2)	3 (4.8)	3 (5.1)	1.0000
Chronic renal failure	48 (10.4)	10 (15.9)	6 (10.2)	0.4168
Chronic liver failure (Child-Pugh Class C)	19 (4.1)	0 (0.0)	2 (3.4)	0.3044
Home ventilation	5 (1.1)	1 (1.6)	1 (1.7)	0.4482
ARDS risk factors, n (%)				
Pneumonia	311 (67.3)	51 (81.0)	50 (84.7)*	**0.0035**
Pulmonary contusion	1 (0.2)	0 (0.0)	0 (0.0)	1.0000
Pulmonary vasculitis	3 (0.6)	3 (4.8)*	1 (1.7)	**0.0255**
Major trauma	1 (0.2)	0 (0.0)	0 (0.0)	1.0000
Aspiration of gastric contents	50 (10.8)	4 (6.3)	0 (0.0)*	**0.0182**
Pancreatitis	4 (0.9)	0 (0.0)	1 (1.7)	0.4794
Non- cardiogenic shock	54 (11.7)	3 (4.8)	3 (5.1)	0.0906
Drug-overdose	3 (0.6)	1 (1.6)	1 (1.7)	0.2808
Severe burns	0 (0.0)	0 (0.0)	0 (0.0)	-
Inhalational injury	12 (2.6)	0 (0.0)	0 (0.0)	0.3464
Drowning	1 (0.2)	0 (0.0)	0 (0.0)	1.0000
Non-pulmonary sepsis	83 (18.0)	6 (9.5)	5 (8.5)	0.0565
Blood transfusions	27 (5.8)	1 (1.6)	1 (1.7)	0.2436
Other risk factors	12 (2.6)	0 (0.0)	1 (1.7)	0.5942
None	33 (7.1)	4 (6.3)	3 (5.1)	0.9550
Cause of immunosuppression, n (%)				0.8968
Known (hematologic and/or active neoplasm)	283 (61.3)	37 (58.7)	37 (62.7)	
Unknown	179 (38.7)	26 (41.3)	22 (37.3)	
Illness severity at ARDS onset				
Non-pulmonary SOFA score[a], mean ± SD	7.0 ± 3.9	3.7 ± 3.1*	5.3 ± 3.6*	**<0.0001**
PaO$_2$/FiO$_2$ ratio (mm Hg), mean ± SD	159.4 ± 70.0	154.5 ± 58.4	142.5 ± 59.2	0.2359
Mild ARDS[b], n (%)	143 (31.0)	15 (23.8)	9 (15.3)*	**0.0286**
Moderate ARDS[b], n (%)	201 (43.5)	37 (58.7)*	33 (55.9)	**0.0228**
Severe ARDS[b], n (%)	118 (25.5)	11 (17.5)	17 (28.8)	0.2953

Abbreviations: ARDS: acute respiratory distress syndrome; COPD: chronic obstructive pulmonary disease; IMV: patients invasively ventilated from Day 1, independently of the type of support received after the eventual extubation; NIV: patients treated exclusively with non-invasive ventilation, from Day 1 to study exit, independently of outcome; NIV failure: patients initially treated with non-invasive ventilation and subsequently intubated during the study period; NYHA: New York Heart Association; SD: standard deviation; SOFA: sequential organ failure assessment.
a. Non pulmonary SOFA score adjusted for missing values
b. Severity of ARDS was evaluated according to the Berlin definition
Note: Bold p values shows a statistically significant difference among the three groups
* Statistically significant different from IMV group; † Statistically significant different from NIV group