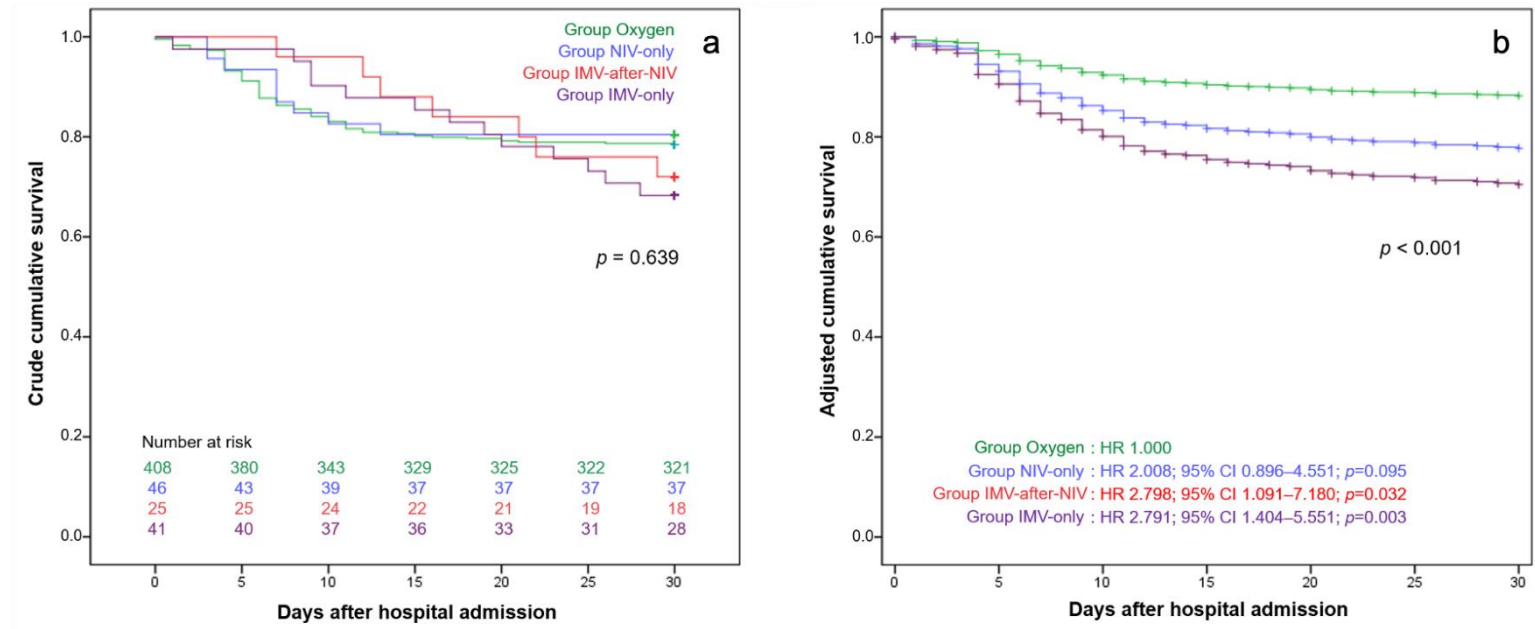


Supplementary materials**Table S1.** Results of multivariate Cox proportional hazard analysis of mortality at different time interval from hospital admission for patients undergoing to different breathing support modalities.

	Breathing support	60-days mortality HR (95% CI); <i>p</i> -value	10-days mortality HR (95% CI); <i>p</i> -value	11- to 60-days mortality HR (95% CI); <i>p</i> -value
Model #0	Oxygen*	1.000	1.000	1.000
	NIV-only	0.839 (0.424-1.663); 0.616	1.017 (0.489-2.115); 0.963	0.350 (0.047-2.583); 0.303
	IMV-after-NIV	1.307 (0.635-2.690); 0.468	0.220 (0.031-1.583); 0.133	4.408 (1.906-10.197); 0.001
	IMV-only	1.538 (0.892-2.652); 0.122	0.547 (0.200-1.500); 0.241	4.418 (2.173-8.984); <0.001
Model #1	Oxygen*	1.000	1.000	1.000
	NIV-only	1.890 (0.925-3.859); 0.081	2.345 (1.084-5.072); 0.030	0.707 (0.093-5.392); 0.738
	IMV-after-NIV	2.847 (1.326-6.111); 0.007	0.530 (0.072-3.919); 0.534	7.626 (3.059-19.012); <0.001
	IMV-only	3.074 (1.708-5.532); <0.001	1.181 (0.415-3.361); 0.755	7.312 (3.337-16.021); <0.001
Model #3	Oxygen*	1.000	1.000	1.000
	NIV-only	1.793 (0.878-3.660); 0.109	2.202 (1.019-4.759); 0.045	0.691 (0.090-5.271); 0.721
	IMV-after-NIV	2.689 (1.250-5.785); 0.011	0.499 (0.067-3.692); 0.496	7.376 (2.938-18.515); <0.001
	IMV-only	3.037 (1.687-5.468); <0.001	1.172 (0.412-3.339); 0.766	7.224 (3.295-15.838); <0.001
Model #3	Oxygen*	1.000	1.000	1.000
	NIV-only	1.910 (0.926-3.944); 0.080	2.650 (1.216-5.772); 0.014	0.533 (0.069-4.120); 0.546
	IMV-after-NIV	2.869 (1.319-6.239); 0.008	0.629 (0.084-4.686); 0.651	6.012 (2.344-15.414); <0.001
	IMV-only	3.071 (1.706-5.529); <0.001	1.182 (0.416-3.357); 0.754	6.623 (3.008-14.583); <0.001
Model #4	Oxygen*	1.000	1.000	1.000
	NIV-only	1.936 (0.937-4.001); 0.074	2.663 (1.222-5.803); 0.014	0.539 (0.069-4.180); 0.554
	IMV-after-NIV	3.075 (1.405-6.730); 0.005	0.655 (0.087-4.933); 0.682	6.542 (2.549-16.792); <0.001
	IMV-only	3.160 (1.753-5.695); <0.001	1.199 (0.421-3.412); 0.734	6.888 (3.121-15.203); <0.001
Model #5	Oxygen*	1.000	1.000	1.000
	NIV-only	1.778 (0.794-3.980); 0.162	3.361 (1.406-8.033); 0.006	0.320 (0.038-2.666); 0.292
	IMV-after-NIV	2.776 (1.144-6.734); 0.024	0.897 (0.111-7.277); 0.919	3.689 (1.223-11.133); 0.021
	IMV-only	2.966 (1.557-5.652); 0.001	1.433 (0.484-4.245); 0.516	4.744 (1.918-11.734); 0.001

HR: hazard ratio. CI: confidence interval. Model #0: unadjusted; Model #1: adjusted by age; Model #2: adjusted by age and sex; Model #3: adjusted by age, sex, and administration of steroids; Model #4: adjusted by age, sex, and administration of steroids, and canakinumab; Model #5: adjusted by age, sex, and administration of steroids, canakinumab, and tocilizumab. *: reference

eFigure 1. Crude (a) and adjusted (b) Kaplan-Meier curves for the risk of 30-day mortality in patients belonging to the study groups according to provided respiratory support.



eFigure 2. Adjusted hazard ratios for 10-day (a) and 11 to 60-day (b) mortality in patients belonging to the study groups according to provided respiratory support.

