

Table S1 Sensitivity analyses for data before and after imputation

Variables	Before imputation	After imputation	Statistics	P
Hematocrit, %	32.02±6.41	32.04±6.39	t=0.13	0.89
Potassium, mEq/L	4.30±0.76	4.30±0.76	t=0.08	0.93
PaCO ₂ , mmHg	41.95±8.95	42.07±8.95	t=0.77	0.44
Weight, kg	84.44±20.86	84.38±19.69	t=-0.15	0.88
SpO ₂ , %	98.09±2.81	98.07±2.80	t=-0.39	0.70
Lactate, mmol/L	1.90 (1.30, 2.80)	1.90 (1.40, 2.70)	Z=-0.710	0.48
Temperature, °C	36.63±0.83	36.62±0.81	t=-0.97	0.33
Bicarbonate, mEq/L	22.59±4.06	22.59±4.08	t=0.01	0.99
Respiratory rate, bpm	18.25±5.71	18.14±5.47	t=-1.12	0.26
WBC, K/uL	12.30 (8.70, 16.30)	12.30 (8.70, 16.30)	Z=-0.374	0.71
SBP, mmHg	120.60±23.22	120.69±23.21	t=0.22	0.83
Creatinine, mg/dL	0.90 (0.70, 1.30)	0.90 (0.70, 1.20)	Z=-0.137	0.89
RDW, %	14.54±1.85	14.57±1.85	t=1.05	0.29
Sodium, mEq/L	137.44±4.33	137.47±4.34	t=0.27	0.79
Diastolic, mmHg	65.17±15.75	65.34±15.76	t=0.62	0.54
Chloride, mEq/L	105.37±5.38	105.35±5.38	t=-0.20	0.84
Platelet, K/uL	170.00 (124.00, 234.00)	172.00 (125.00, 237.00)	Z=-1.093	0.27
INR	1.41±0.38	1.40±0.36	t=-0.68	0.50
Heart rate, bpm	88.36±19.14	88.48±19.12	t=0.35	0.73
Hemoglobin, g/dL	10.61±2.15	10.61±2.14	t=0.09	0.93
BUN, mg/dL	17.00 (13.00, 25.00)	17.00 (13.00, 26.00)	Z=-1.924	0.054
Glucose, mg/dL	138.00 (114.00, 171.00)	139.00 (114.00, 171.00)	Z=-0.755	0.45

Data are presented as mean ± standard deviation or median (interquartile range).

Table S2 The multicollinearity assessment for covariates

Variables	VIF	Df	$VIF^{1/(2 \cdot Df)}$
Age	1.163	1	1.078
Race	1.157	3	1.025
Vasopressor	1.271	1	1.127
AKI	1.08	1	1.039
SpO ₂	1.204	1	1.097
Heart rate	1.341	1	1.158
Respiratory rate	1.363	1	1.167
Weight	1.111	1	1.054
ARDS grade	1.19	2	1.045
PEEP	1.072	1	1.035
BUN	1.999	1	1.414
WBC	1.064	1	1.031
Creatinine	1.962	1	1.401
Anion gap	1.511	1	1.229
RDW	1.304	1	1.142
SOFA	1.974	1	1.405
CCI	1.194	1	1.093
Ventilation hours	1.192	1	1.092
Chemotherapy	1.048	1	1.024
Radiotherapy	1.108	1	1.053

Table S3 Covariate screening for the association of early OND use with 30-day mortality

Variables	Crude model		Adjusted model	
	HR (95% CI)	P	HR (95% CI)	P
Age	1.34 (1.26–1.43)	<0.001	1.32 (1.23–1.41)	<0.001
Gender				
Female	Ref			
Male	0.67 (0.59–0.75)	<0.001		
Ethnicity				
White	Ref		Ref	
Black	1.52 (1.23–1.88)	<0.001	1.16 (0.93–1.44)	0.179
Others	1.28 (1.08–1.53)	0.006	1.13 (0.94–1.35)	0.183
Unknown	1.91 (1.64–2.22)	<0.001	1.78 (1.52–2.08)	<0.001
Vasopressor				
No	Ref		Ref	
Yes	2.08 (1.81–2.39)	<0.001	1.24 (1.06–1.45)	0.006
Steroid				
No	Ref			
Yes	1.83 (1.62–2.06)	<0.001		
VAP				
No	Ref			
Yes	1.31 (1.05–1.63)	0.016		
AKI				
No	Ref		Ref	
Yes	2.28 (1.92–2.73)	<0.001	1.63 (1.36–1.96)	<0.001
SpO ₂	0.75 (0.72–0.79)	<0.001	0.95 (0.90–1.00)	0.062
MAP	1.05 (0.99–1.12)	0.085		
Temperature	0.98 (0.93–1.04)	0.550		
Heart rate	1.40 (1.33–1.48)	<0.001	1.05 (0.99–1.12)	0.117
Respiratory rate	1.54 (1.47–1.62)	<0.001	1.22 (1.15–1.30)	<0.001
Weight	0.72 (0.67–0.76)	<0.001	0.80 (0.75–0.85)	<0.001
PaCO ₂	0.77 (0.73–0.82)	<0.001		
ARDS level				
Mild	Ref		Ref	
Moderate	1.63 (1.43–1.86)	<0.001	1.12 (0.98–1.28)	0.100
Severe	2.48 (2.11–2.92)	<0.001	1.20 (1.01–1.43)	0.040
PEEP	1.19 (1.13–1.24)	<0.001	1.08 (1.03–1.14)	0.002
Hemoglobin	0.96 (0.91–1.02)	0.196		
BUN	1.38 (1.34–1.43)	<0.001	1.08 (1.02–1.14)	0.014
Platelet	1.03 (0.97–1.09)	0.319		
WBC	1.13 (1.07–1.19)	<0.001	1.05 (1.00–1.11)	0.052
Hematocrit	1.03 (0.97–1.09)	0.357		
Lactate	1.38 (1.32–1.45)	<0.001		
Glucose	1.08 (1.02–1.14)	0.008		
Creatinine	1.20 (1.16–1.24)	<0.001	0.84 (0.78–0.90)	<0.001
INR	1.42 (1.36–1.48)	<0.001		
Anion gap	1.70 (1.62–1.78)	<0.001	1.23 (1.16–1.31)	<0.001
RDW	1.65 (1.58–1.73)	<0.001	1.20 (1.13–1.27)	<0.001
SOFA	2.16 (2.06–2.27)	<0.001	1.73 (1.61–1.85)	<0.001
CCI	1.60 (1.52–1.67)	<0.001	1.26 (1.20–1.34)	<0.001
Ventilation hours	1.06 (1.01–1.11)	0.016	0.69 (0.64–0.75)	<0.001
Chemotherapy				
No	Ref		Ref	
Yes	2.47 (1.76–3.48)	<0.001	1.34 (0.94–1.90)	0.101
Radiotherapy				
No	Ref		Ref	
Yes	13.08 (6.78–25.24)	<0.001	2.97 (1.49–5.93)	0.002
Surgery				
No	Ref			
Yes	1.05 (0.93–1.18)	0.419		
ECMO				
No	Ref			
Yes	2.70 (0.38–19.18)	0.321		