

Table SI. Charlson Comorbidity Index.

Point	Comorbidity
1	Myocardial infarction, heart failure, peripheral vascular disease, cerebrovascular disease, dementia, chronic pulmonary disease, connective tissue disorder, peptic ulcer disease, mild liver disease, diabetes mellitus without complications
2	Diabetes mellitus with complications, moderate-to-severe renal disease, hemiplegia, leukemia, lymphoma, tumor without metastases
3	Moderate-to-severe liver disease
6	Metastatic solid tumors, acquired immunodeficiency syndrome

Table SII. Comparison of in-hospital mortality for different intensive care unit stay time.

	All patients (n=2547)	Stay time <24 h (n=212)	Stay time ≥24 h (n=2305)	P-value
In-hospital mortality n (%)	916 (35.9)	95 (44.9)	821 (35.6)	0.0071

Table SIII. Comparison of in-hospital mortality for different numbers of admissions.

In-hospital mortality	All patients (n=2547)	Multiple-admissions (n=791)	First admission (n=1756)	P-value
n (%)	916 (35.9)	326 (41.2)	590 (33.6)	0.0002

Table SIV. Univariate analysis for in-hospital mortality.

Covariate	Hazard ratio (95% CI)	P-value
Sex		0.426
Male	1.00	
Female	1.08 (0.90,1.29)	
Age (years)		<0.001
<65	1.00	
≥65	2.02 (1.64,2.50)	
Etiology		
Acute myocardial infarction	0.96 (0.80,1.16)	0.689
Acute heart failure	0.49 (0.41,0.58)	<0.001
History of disease		
Hypertension	1.12 (0.91,1.39)	0.276
Chronic kidney disease	1.39 (1.09,1.78)	0.007
Ischemic stroke	1.10 (0.77,1.58)	0.599
Peripheral vascular disease	1.10 (0.89,1.36)	0.364
Dementia	1.16 (0.72,1.86)	0.535
Chronic pulmonary disease	1.11 (0.92,1.34)	0.268
Peptic ulcer	0.56 (0.31,1.02)	0.057
Diabetes	1.08 (0.84,1.38)	0.562
Paraplegia	0.10 (0.60,1.67)	0.988
Malignant cancer	1.44 (1.08,1.91)	0.013
Severe liver disease	1.23 (0.80,1.88)	0.348
Scoring system		
Charlson comorbidity index	1.10 (1.06,1.13)	<0.001
ACCI ≥8	1.56 (1.31,1.86)	<0.001
Oxford Acute Severity of Illness Score	1.05 (1.04,1.06)	<0.001
In-hospital management		
Mechanical ventilation	1.38 (1.15,1.65)	<0.001
Extracorporeal membrane oxygenation	1.32 (0.89,1.96)	0.172
Vital signs at presentation		
Heart rate	1.00 (1.00,1.01)	0.401
Mean blood pressure	0.98 (0.97,0.99)	<0.001
Laboratory findings		
Hemoglobin	0.93 (0.90,0.97)	<0.001
Platelets	1.00 (1.00,1.00)	0.466
White blood cell	1.01 (1.00,1.02)	0.030
Serum creatinine	1.08 (1.04,1.12)	<0.001
Vasopressors		
Dobutamine	1.21 (1.00,1.47)	0.050
Norepinephrine	2.49 (1.98,3.15)	<0.001
Dopamine	1.44 (1.18,1.75)	<0.001

ACCI, age-adjusted Charlson comorbidity index; CI, confidence interval.

Table SV. Threshold effect analysis of ACCI on in-hospital mortality excluded patients whose diagnoses sequence number ≥ 5 as a sensitivity analysis.

Threshold of ACCI	Hazard ratio	95% confidence interval	P-value
<3.9	0.469	0.174,1.261	0.134
≥ 3.9	1.138	1.055,1.228	<0.001
Log-likelihood ratio test			0.013

ACCI, age-adjusted Charlson comorbidity index.

Table SVI. Threshold effect analysis of ACCI on in-hospital mortality excluded patients who received postprocedural cardiogenic shock.

Threshold of ACCI	Hazard ratio	95% confidence interval	P-value
<4.5	0.816	0.495,1.347	0.427
≥4.5	1.125	1.053,1.201	<0.001
Log-likelihood ratio test			<0.001

ACCI, age-adjusted Charlson comorbidity index.

Table SVII. Association between ACCI scores and in-hospital mortality in multiple regression model excluded patients who received postprocedural cardiogenic shock.

Variable	Model I		Model II		Model III		Model IV	
	HR (95% CI)	P-value	HR (95% CI)	P-value	HR (95% CI)	P-value	HR (95% CI)	P-value
ACCI	1.10 (1.06-1.14)	<0.001	1.05 (1.01-1.10)	0.015	1.12 (1.06-1.19)	<0.001	1.09 (1.03-1.16)	0.005
ACCI <8	1.00 (Ref)		1.00 (Ref)		1.00 (Ref)		1.00 (Ref)	
ACCI ≥8	1.58 (1.31-1.91)	<0.001	1.31 (1.07-1.60)	0.009	1.70 (1.31-2.20)	<0.001	1.47 (1.13-1.91)	0.004

Model I didn't adjust for confounders. Model II adjusted for age + sex. Model III: Model II + hypertension, CKD, stroke, COPD, dementia, Paraplegia 1, peptic ulcer disease 1, diabetes, severe liver disease 1, malignant cancer 1, peripheral vascular disease, AMI and AHF. Model IV: Model III + heart rate, MBP, hemoglobin, platelets, WBC, creatinine, OASIS, MV, ECMO, dobutamine, norepinephrine and dopamine. ACCI, age-adjusted Charlson comorbidity index; HR, hazard ratio; CI, confidence interval.

Table SVIII. Association between ACCI scores and in-hospital mortality in multiple regression model excluded patients whose diagnoses sequence number ≥ 5 as a sensitivity analysis.

Variable	Model I		Model II		Model III		Model IV	
	HR (95% CI)	P-value	HR (95% CI)	P-value	HR (95% CI)	P-value	HR (95% CI)	P-value
ACCI	1.09 (1.05-1.13)	<0.001	1.04 (0.99-1.09)	0.114	1.14 (1.06-1.22)	<0.001	1.11 (1.03-1.20)	0.004
ACCI <8	1.00 (Ref)		1.00 (Ref)		1.00 (Ref)		1.00 (Ref)	
ACCI ≥ 8	1.48 (1.20-1.84)	<0.001	1.20 (0.96-1.51)	0.116	1.64 (1.22-2.19)	0.001	1.51 (1.12-2.03)	0.007

Model didn't adjust for confounders. Model II: Adjusted for age + sex. Model III: Model II + hypertension, CKD, stroke, COPD, dementia, paraplegia 1, peptic ulcer disease 1, diabetes, severe liver disease 1, malignant cancer 1, peripheral vascular disease, AMI, AHF. Model IV: Model III + heart rate, MBP, hemoglobin, platelets, WBC, creatinine, OASIS, MV, ECMO, dobutamine, norepinephrine, dopamine. ACCI, age-adjusted Charlson comorbidity index; HR, hazard ratio; CI, confidence interval