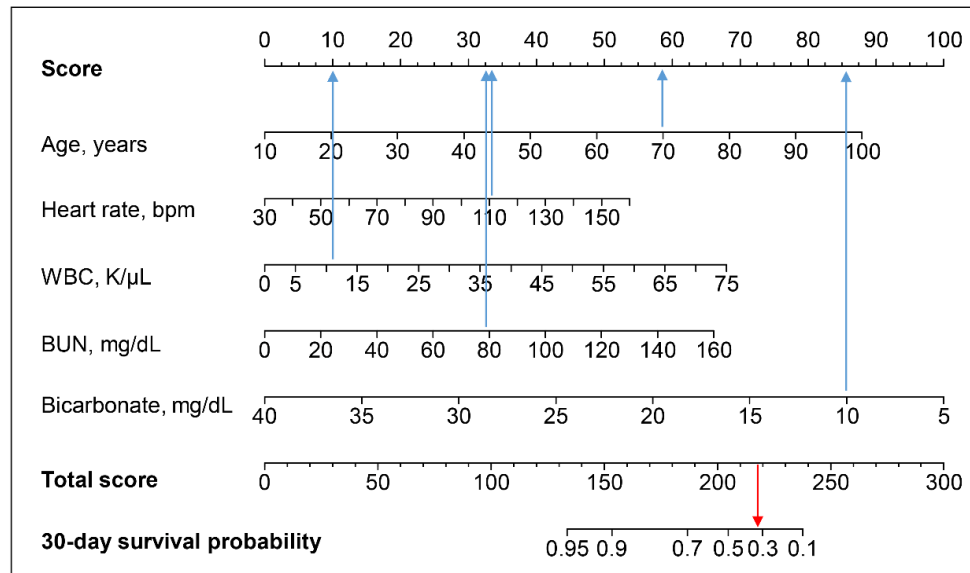**Supplementary Figure 1. Summary of missing data.**

Black bars indicate variables with missing data for more than 20% of patients. CCU, cardiac care unit; MAP, mean arterial pressure; CVP, central venous pressure; WBC, white blood cell count; BNP, brain natriuretic peptide; BUN, blood urea nitrogen; vs, vital signs; lab, laboratory tests.

Supplementary Figure 2. A high-risk sample predicted by nomogram model.

Score was assigned for age, heart rate, WBC, BUN, and bicarbonate, by drawing a line upward from the corresponding values to the "Score" line. The sum of all these scores, plotted on the "Total score" line, corresponds to predictions of 30-day survival probability in myocardial infarction patients. WBC, white blood cell count; bpm, beats per minute; BUN, blood urea nitrogen.
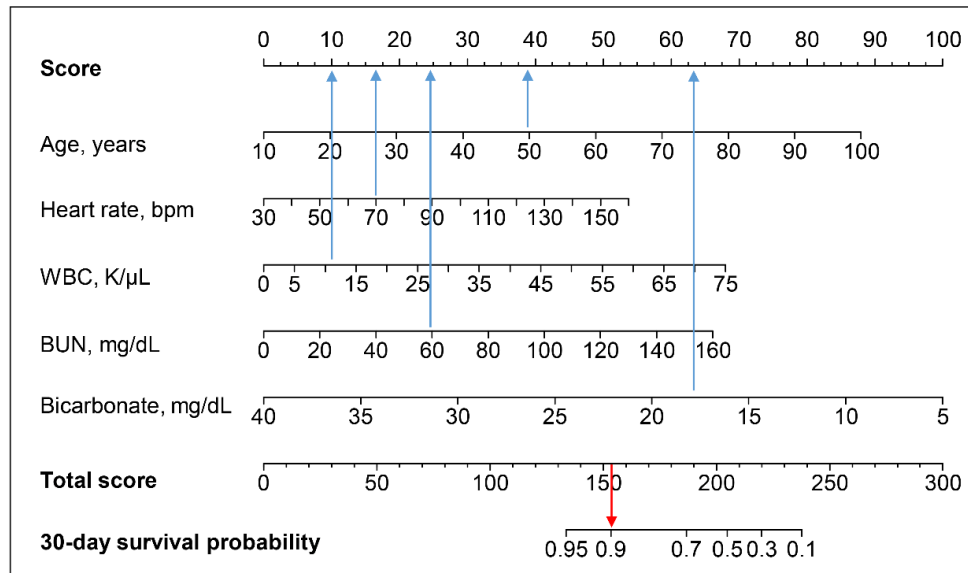
Supplementary Figure 3. A low-risk sample predicted by nomogram model.

Score was assigned for age, heart rate, WBC, BUN, and bicarbonate, by drawing a line upward from the corresponding values to the "Score" line. The sum of all these scores, plotted on the "Total score" line, corresponds to predictions of 30-day survival probability in myocardial infarction patients. WBC, white blood cell count; bpm, beats per minute; BUN, blood urea nitrogen.

Supplementary Table 1. Univariate analyses for the relationship between the candidate risk factors and 30-day mortality in the primary cohort

Variables	HR	95% CI	*P* for Cox model	*P* for proportional hazards assumption
Basic demographics				
age	1.042	1.031-1.053	<0.001	0.146
male	0.549	0.418-0.721	<0.001	0.902
Weight	0.989	0.981-0.996	0.002	0.904
CCU	0.818	0.618-1.081	0.158	0.915
Private insurance	0.353	0.249-0.502	<0.001	0.155
Vital signs				
Heart rate	1.022	1.015-1.029	<0.001	0.004
MAP	0.985	0.977-0.993	<0.001	0.318
Temperature	0.877	0.768-1.002	0.054	0.612
Laboratory tests				
Hemoglobin	0.882	0.828-0.940	<0.001	0.764
Platelet	1.000	0.999-1.002	0.707	0.325
Creatinine kinase	1.000	1.000-1.000	0.518	0.596
WBC	1.064	1.049-1.079	<0.001	0.728
Chloride	1.018	0.988-1.048	0.241	0.458
Sodium	0.998	0.962-1.036	0.922	0.615
BUN	1.025	1.021-1.030	<0.001	0.791
Bicarbonate	0.842	0.819-0.866	<0.001	0.640
Creatinine	1.257	1.181-1.338	<0.001	0.926
Potassium	1.394	1.193-1.630	<0.001	0.976

HRs were estimated by Cox proportional hazards regression. The proportional hazards assumption was checked based on the scaled Schoenfeld residuals. All statistical tests were two-sided. HR, hazard ratio; CI, confidence interval; CCU, cardiac care unit; MAP, mean arterial pressure; WBC, white blood cell count; BUN, blood urea nitrogen.

Supplementary Table 2. Comparison among nomogram model and other existing models for 30-day mortality in MI patients

Author	Year	Model	Disease	Number of subjects	Observed 30-day mortality, %	AUC
Qi Guo et al	2020	Five-factor nomogram	MI	2031	14.9	0.80
Harlan M. Krumholz et al	2015	Twenty-seven variables administrative claims model	Acute MI	140120	18.0	0.71
Sorin J. Brener et al	2019	Eight variables risk score	MI patients after percutaneous coronary intervention	24532	0.5	0.85
Meng H. Hsieh et al	2019	Decision tree model	Acute MI patients after percutaneous coronary intervention	3421	3.7	0.90
Batric Popovic et al	2016	TIMI score	ST elevation MI with left ventricular dysfunction	2486	2.4	0.66
Roni Shouval et al	2017	GRACE score	ST elevation MI	2482	4.5	0.87

MI, myocardial infarction; AUC, the area under the receiver operating characteristic curve; TIMI, Thrombolysis in Myocardial Infarction; GRACE, Global Registry of Acute Coronary Events.

[1] Krumholz HM, Wang Y, Mattera JA, et al. An administrative claims model suitable for profiling hospital performance based on 30-day mortality rates among patients with an acute myocardial infarction. Circulation. 2006;113(13):1683-1692.

[2] Brener SJ, Leon MB, Serruys PW, et al. Derivation and external validation of a novel risk score for prediction of 30-day mortality after percutaneous coronary intervention. EuroIntervention. 2019;15(6):e551-e557.

[3] Hsieh MH, Lin SY, Lin CL, et al. A fitting machine learning prediction model for short-term mortality following percutaneous catheterization intervention: a nationwide population-based study. Ann Transl Med. 2019;7(23):732.

[4] Popovic B, Girerd N, Rossignol P, et al. Prognostic Value of the Thrombolysis in Myocardial Infarction Risk Score in ST-Elevation Myocardial Infarction Patients With Left Ventricular Dysfunction (from the EPHESUS Trial). Am J Cardiol. 2016;118(10):1442-1447.

[5] Shouval R, Hadanny A, Shlomo N, et al. Machine learning for prediction of 30-day mortality after ST elevation myocardial infraction: An Acute Coronary Syndrome Israeli Survey data mining study. Int J Cardiol. 2017;246:7-13.