

Appendix S1 Effects of multiple variables on in-hospital mortality in Univariate Analysis in patients with ACS.

	OR	95% CI	P
Age, yrs	1.075	1.047-1.103	<0.001
Gender	0.985	0.555-1.749	0.958
History of Diabetes Mellitus	1.218	0.701-2.115	0.484
History of Hypertension	0.642	0.378-1.092	0.102
History of MI	1.149	0.490-2.693	0.749
Dyslipidemia	0.638	0.374-1.090	0.100
Prior PCI	0.463	0.144-1.488	0.196
Current smoking	0.893	0.521-1.529	0.679
SBP on admission, mm Hg	0.967	0.953-0.980	<0.001
Heart rate on admission, bpm	1.032	1.018-1.047	<0.001
Diagnosis on admission	2.310	1.699-3.140	<0.001
Troponin-I, ng/mL	1.019	1.012-1.026	<0.001
Creatinine, umol/l	1.016	1.011-1.021	<0.001
Albumin, g/L	0.870	0.817-0.927	<0.001
SGOT	1.007	1.005-1.008	<0.001
SGPT	1.012	1.009-1.015	<0.001
Hemoglobin, g/L	0.979	0.966-0.992	0.002
Leukocyte count ( $\times 10^9/L$ )	1.094	1.056-1.133	<0.001
Platelet count ( $\times 10^9/L$ )	0.995	0.990-1.000	0.053
BNP, ng/L	1.001	1.001-1.001	<0.001
Moderate or severe calcification	2.557	1.200-5.449	0.015
Left main disease	3.309	1.765-6.202	<0.001
Three-vessel disease	2.258	1.321-3.858	0.003
Use of Intra-aortic Balloon Pump	26.130	14.968-45.615	<0.001
TIMI flow grade 0/1 on arrival	0.669	0.327-1.369	0.271
TIMI flow grade 3 post PCI	0.033	0.012-0.092	<0.001

MI, myocardial infarction; PCI, percutaneous coronary intervention; SBP, systolic blood pressure; bpm, beats per minute; SGOT,

serum glutamic oxaloacetic transaminase; SGPT, serum glutamate-pyruvate transaminase; BNP, brain natriuretic peptide

Appendix S2 Effects of multiple variables on in-hospital mortality in Univariate Analysis in patients with STEMI.

	OR	95% CI	P
Age, yrs	1.085	1.053-1.117	<0.001
Gender	1.302	0.667-2.540	0.439
History of Diabetes Mellitus	1.196	0.613-2.333	0.600
History of Hypertension	0.923	0.494-1.725	0.801
History of MI	1.800	0.631-5.138	0.272

Dyslipidemia	0.542	0.290-1.015	0.056
Prior PCI	0.475	0.065-3.489	0.464
Current smoking	0.606	0.320-1.147	0.124
SBP on admission, mm Hg	0.976	0.960-0.992	0.003
Heart rate on admission, bpm	1.026	1.008-1.043	0.003
Troponin-I, ng/mL	1.008	1.001-1.016	0.045
Creatinine, umol/l	1.017	1.010-1.023	<0.001
Albumin, g/L	0.885	0.820-0.954	0.002
SGOT	1.006	1.004-1.007	<0.001
SGPT	1.010	1.007-1.014	<0.001
Hemoglobin, g/L	0.978	0.964-0.993	0.003
Leukocyte count ( $\times 10^9/L$ )	1.089	1.029-1.152	0.003
Platelet count ( $\times 10^9/L$ )	0.995	0.990-1.000	0.070
BNP, ng/L	1.001	1.001-1.001	<0.001
Moderate or severe calcification	2.892	1.110-7.538	0.030
Left main disease	5.737	2.739-12.014	<0.001
Three-vessel disease	2.400	1.278-4.507	0.006
Use of Intra-aortic Balloon Pump	15.155	7.899-29.074	<0.001
TIMI flow grade 0/1 on arrival	0.814	0.373-1.778	0.606
TIMI flow grade 3 post PCI	0.075	0.024-0.234	<0.001

MI, myocardial infarction; PCI, percutaneous coronary intervention; SBP, systolic blood pressure; bpm, beats per minute; SGOT,

serum glutamic oxaloacetic transaminase; SGPT, serum glutamate-pyruvate transaminase; BNP, brain natriuretic peptide

Appendix S3 Effects of multiple variables on in-hospital mortality in Univariate Analysis in patients with NSTEMI-ACS.

	OR	95% CI	P
Age, yrs	1.070	1.016-1.127	0.011
Gender	0.723	0.230-2.276	0.580
History of Diabetes Mellitus	1.727	0.625-4.773	0.292
History of Hypertension	0.488	0.177-1.348	0.166
History of MI	1.169	0.263-5.198	0.837
Dyslipidemia	0.992	0.339-2.909	0.989
Prior PCI	0.931	0.210-4.136	0.925
Current smoking	1.283	0.464-3.545	0.631
SBP on admission, mm Hg	0.975	0.949-1.002	0.066
Heart rate on admission, bpm	1.030	1.000-1.060	0.052
Troponin-I, ng/mL	1.025	1.005-1.045	0.014
Creatinine, umol/l	1.018	1.010-1.026	<0.001
Albumin, g/L	0.921	0.809-1.050	0.219
SGOT	1.007	1.002-1.011	0.002

SGPT	1.012	1.006-1.019	<0.001
Hemoglobin, g/L	0.986	0.958-1.014	0.318
Leukocyte count ( $\times 10^9/L$ )	1.080	1.031-1.132	0.001
Platelet count ( $\times 10^9/L$ )	0.995	0.986-1.004	0.284
BNP, ng/L	1.001	1.000-1.001	<0.001
Moderate or severe calcification	4.800	1.519-15.166	0.008
Left main disease	2.212	0.622-7.870	0.220
Three-vessel disease	1.938	0.688-5.459	0.210
Use of Intra-aortic Balloon Pump	35.241	11.680-106.333	<0.001
TIMI flow grade 0/1 on arrival	0.250	0.033-1.907	0.181
TIMI flow grade 3 post PCI	0.010	0.001-0.103	<0.001

MI, myocardial infarction; PCI, percutaneous coronary intervention; SBP, systolic blood pressure; bpm, beats per minute; SGOT, serum glutamic oxaloacetic transaminase; SGPT, serum glutamate-pyruvate transaminase; BNP, brain natriuretic peptide

#### Appendix S4 Effects of multiple variables on Clinical Outcomes in Univariate and Multivariate Analysis in patients with STEMI.

	Univariate Analysis			Multivariate Analysis		
	OR	95% CI	<i>p</i> value	OR	95% CI	<i>p</i> value
GRACE score	1.031	1.024-1.039	<0.001			
<b>ALP as a continuous variable</b>						
ALP per 1 U/L increase	1.020	1.011-1.029	<0.001	1.016	1.004-1.028	0.007 <sup>a</sup>
<b>ALP as a categories variable</b>						
Tertile 1	Reference		0.014	Reference		0.025
Tertile 2	1.407	0.532-3.716	0.491	2.481	0.721-8.538	0.149
Tertile 3	3.055	1.303-7.163	0.010	4.720	1.477-15.086	0.009 <sup>a</sup>

<sup>a</sup>Adjusted for age, SBP on admission, Heart rate on admission, Troponin-I, creatinine, Albumin, SGOT, SGPT, Hemoglobin, Leukocyte count, BNP, Moderate or severe calcification, Left main disease, Three-vessel disease, Use of Intra-aortic Balloon Pump and TIMI flow grade 3 post PCI;

#### Appendix S5 Effects of multiple variables on Clinical Outcomes in Univariate and Multivariate Analysis in patients with NSTEMI-ACS.

	Univariate Analysis			Multivariate Analysis		
	OR	95% CI	<i>p</i> value	OR	95% CI	<i>p</i> value
GRACE score	1.032	1.020-1.044	<0.001			
<b>ALP as a continuous variable</b>						

ALP per 1 U/L increase	1.027	1.015-1.040	<0.001	1.019	1.002-1.037	0.030 <sup>a</sup>
ALP as a categories variable						
Tertile 1	Reference		0.003	Reference		0.024
Tertile 2	1.011	0.063-6.175	0.433	1.239	0.076-2.562	0.880
Tertile 3	3.699	1.790-4.862	0.012	7.409	1.205-18.718	0.033 <sup>a</sup>

<sup>a</sup>Adjusted for age, Troponin-I, creatinine, SGOT, SGPT, Leukocyte count, BNP, Moderate or severe calcification, Use of Intra-aortic Balloon Pump and TIMI flow grade 3 post PCI;

Appendix S6 GRACE, GRACE+ ALP and ALP performance for the prognosis prediction in patients with STEMI.

	Discrimination				Calibration		Precision
	C-statistic	Standard error	p value	95% CI	HL p-Value	R <sup>2</sup>	Brier Score
GRACE score	0.831	0.0348	<0.001	0.815-0.846	0.210	0.185	0.0170
ALP	0.651	0.0459	0.001	0.631-0.671	0.770	0.052	0.0175
GRACE+ ALP	0.851	0.0336	<0.001	0.836-0.866	0.515	0.223	0.0164

Appendix S7 Comparisons of the predictive performance of GRACE, GRACE+ ALP and ALP for the prognosis prediction in patients with STEMI.

	z for C-statistic	p for C-statistic	NRI	p for NRI	IDI	p for IDI
GRACE vs. ALP	3.247	0.001	0.785	<0.001	0.043	0.011
GRACE+ ALP vs. GRACE	1.246	0.213	0.094	0.237	0.029	0.051
GRACE+ ALP vs. ALP	4.460	<0.001	0.988	<0.001	0.072	<0.001

Appendix S8 GRACE, GRACE+ ALP and ALP performance for the prognosis prediction in patients with NSTEMI-ACS.

	Discrimination				Calibration		Precision
	C-statistic	Standard error	p value	95% CI	HL p-Value	R <sup>2</sup>	Brier Score
GRACE score	0.800	0.0596	<0.001	0.787-0.812	0.621	0.128	0.0035
ALP	0.795	0.0597	<0.001	0.783-0.808	0.375	0.072	0.0036
GRACE+ ALP	0.864	0.0438	<0.001	0.853-0.874	0.455	0.182	0.0034

Appendix S9 Comparisons of the predictive performance of GRACE, GRACE+ ALP and ALP for the prognosis prediction in patients with NSTEMI-ACS.

	z for C-statistic	p for C-statistic	NRI	p for NRI	IDI	p for IDI
GRACE vs. ALP	0.052	0.959	0.348	0.178	0.024	0.194
GRACE+ ALP vs. GRACE	1.908	0.056	0.020	0.619	0.059	0.228
GRACE+ ALP vs. ALP	1.204	0.229	0.130	0.167	0.044	0.202