Table S1 Association between glucose level in first 48 hours and clinical outcomes

Clinical Outcome	Normoglycemia within first 48 h (glucose ≤11.1 mmol/L) (n=184)	Early hyperglycemia in first 48 h (glucose >11.1 mmol/L) (n=115)	P value
LOS of hospital (day), median [IQR] (n=175)	14 [8–28]	23 [9–35]	0.109
LOS of PICU (day), median [IQR]	6 [3–10]	9 [4–14]	0.002
Duration of mechanical ventilation, median [IQR]	4 [2–8]	5 [2–9]	0.117
Discharge PCPC rating, n (%)			<0.001
Good	82 (44.6)	18 (15.7)	
Mild disability	47 (25.5)	17 (14.8)	
Moderate disability*	22 (12.0)	15 (13.0)	
Severe disability*	17 (9.2)	13 (11.3)	
Vegetative state or coma*	14 (7.6)	30 (26.1)	
Death*	2 (1.1)	22 (19.1)	

*, unfavorable functional outcome is defined as PCPC scale ratings of moderate disability, severe disability and vegetative state or coma, death. PCPC scores assigned as: 1, good; 2, mild disability; 3, moderate disability; 4, severe disability; 5, vegetative state or coma; 6, death. LOS, length of stay; IQR, interquartile range; PICU, pediatric intensive care unit; PCPC, pediatric cerebral performance category.
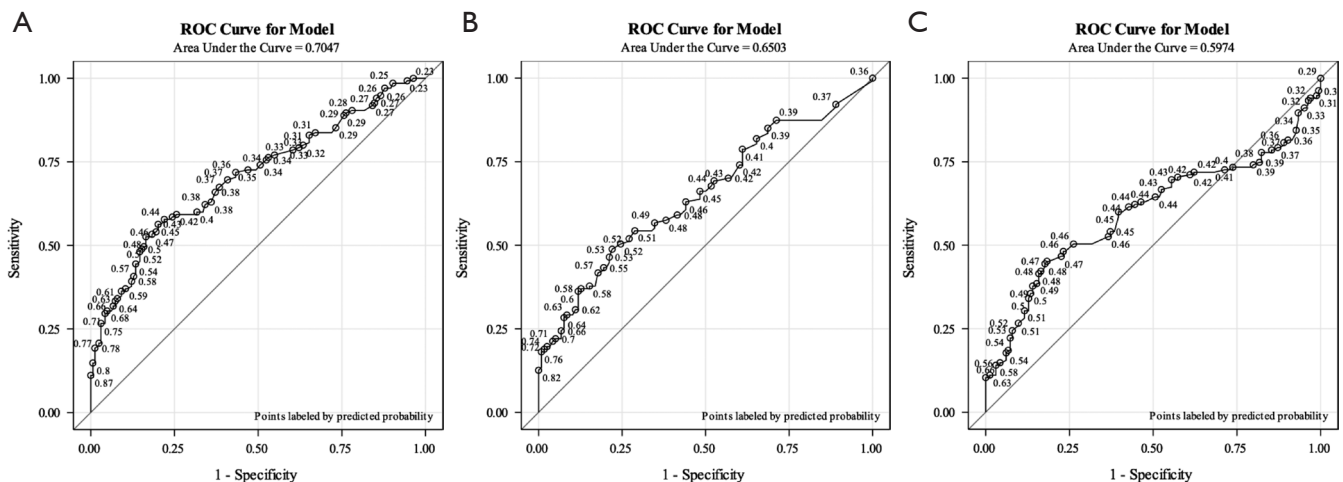

Figure S1 ROC curve analyses of glucometabolic trends and unfavorable PCPC outcome. (A) Initial Glucose in first 24 h (AUC =0.70, odds ratio =1.18, 95% CI: 1.12–1.25, P<0.001, sensitivity/specificity =0.56/0.79, Youden index =0.36, glucose value =11.0 mmol/L). (B) Initial lactate in first 24 h (AUC =0.65, odds ratio =1.26, 95% CI: 1.13–1.41, P<0.001, sensitivity/specificity =0.48/0.77, Youden index =0.26; lactate value: 3.8 mmol/L). (C) Initial pH in the first 24 h (AUC =0.59, odds ratio =0.06, 95% CI: 0.01–0.36, P=0.002, sensitivity/specificity =0.45/0.81, Youden index =0.26; pH =7.292). PCPC, pediatric cerebral performance category; AUC, area under curve; CI, confidence interval; ROC, receiver operating characteristic.

Table S2 Multivariable analysis of admission lactate as a predictor of unfavorable outcome* in the presence of admission hyperglycemia

Variable	Adjusted odds ratio (95% CI)	Adjusted P value
Gender (male)	1.66 (0.973–2.848)	0.063
Presence of Polytrauma	1.99 (1.183–3.355)	0.010
Presence of admission hyperglycemia	4.48 (2.373–8.486)	<0.001
Admission lactate >2.0 mmol/L	0.72 (0.420–1.255)	0.251

Unfavorable functional outcome* defined as PCPC scale ratings of moderate disability, severe disability and vegetative state or coma, death. PCPC, pediatric cerebral performance category.

Table S3 Multivariable analysis of admission acidosis as a predictor of unfavorable outcome* in the presence of admission hyperglycemia

Variable	Adjusted Odds Ratio (95% CI)	Adjusted P value
Gender (male)	1.61 (0.948–2.755)	0.078
Presence of polytrauma	2.03 (1.213–3.424)	0.007
Presence of admission hyperglycemia	4.90 (2.652–9.053)	<0.001
Admission pH <7.35	1.18 (0.703–1.981)	0.503

Unfavorable functional outcome* defined as PCPC scale ratings of moderate disability, severe disability and vegetative state or coma, death. PCPC, pediatric cerebral performance category.