

Table 1 General characteristics between survivor and non-survivor of septic patients with hypoproteinemia.

	Survivors(n=69)	Non-Survivors(n=29)	<i>P</i> values
Gender, %			0.596
Males	34 (49.3)	13 (44.8)	
Females	35 (50.7)	16 (55.2)	
Age, years	58.0(48.0,65.0)	60.0(51.5,68.5)	0.326
Source of infection			0.130
Respiratory system, %	41 (59.4)	22 (75.9)	
Urinary system, %	13 (18.8)	4 (13.8)	
Digestive system, %	6 (8.7)	0 (0.0)	
Other sites, %	9 (13.1)	3 (10.3)	
Length of stay, days	10.3(6.7,16.0)	7.4(4.0,11.0)	0.017
Vasoactive drug			0.166
Yes, %	23 (33.3)	14 (48.3)	
No, %	46 (66.7)	15 (51.7)	

P values indicate differences between survivors and non-survivors of septic patients with hypoproteinemia.

P < 0.05 was considered statistically significant.

Table 2 Biomarkers of septic patients with hypoproteinemia on admission

	Survivors(n=69)	Non-Survivors(n=29)	<i>P</i> values
SBP, mmHg	116.7 ± 34.2	111.4 ± 31.4	0.481
DBP, mmHg	69.3 ± 14.9	63.9 ± 14.3	0.108
The time for albumin supplement, days	6.5(4.3,9.8)	6.0(3.5,9.5)	0.746
T _{HSA} , g	220.0(160.0, 300.0)	240.0 (155.0,380.0)	0.282
T _{HSA} /ΔALB	17.9 (14.1,27.2)	35.2 (23.0,64.8)	<0.001
ESR, mm/h	47.0 (17.5,77.0)	60.5 (24.3,95.0)	0.131
CRP, mg/L	115.0 (70.7,169.5)	126.0 (88.1,190.5)	0.281
PCT, ng/mL	4.9 (1.3,26.6)	11.3 (0.5,39.0)	0.900
ALT, U/L	29.2 (14.1,59.8)	39.3 (16.8,61.2)	0.573
AST, U/L	48.2 (26.2,95.6)	58.9 (29.3,151.1)	0.412
Cr, μmol/L	87.3 (61.3,182.7)	104.3 (69.4,330.7)	0.158
SOFA, score	4.0 (2.0,7.0)	9.0 (7.0,11.5)	<0.001
APACHEII, score	10.0 (7.0,13.5)	15.0 (12.0,20.0)	<0.001

Abbreviations: SBP, systolic blood pressure; DBP, diastolic blood pressure; T_{HSA} , total dosage of human serum

albumin; T_{HSA}/ΔALB , total dosage of human serum albumin-to-the difference of serum albumin before and after

albumin supplement ratio; ESR, erythrocyte sedimentation rate; CRP, C-reactive protein; PCT, procalcitonin; ALT,

glutamic-pyruvic transaminase; AST, glutamic oxaloacetic transaminase; Cr, creatinine; SOFA, sequential organ

failure assessment; APACHEII, Acute Physiology and Chronic Health Evaluation II.

P values indicate differences between survivors and non-survivors of septic patients with hypoproteinemia. *P*

< 0.05 was considered statistically significant.

Table 3 Analysis of factors related to the prognosis of septic patients with hypoproteinemia using univariate and multivariate logistic regression

Variables	Univariate		Multivariate	
	Odds Ratio (95% CI)	<i>P</i> Value	Odds Ratio (95% CI)	<i>P</i> Value
SBP	0.995(0.982,1.009)	0.476	/	/
DBP	0.975(0.946,1.006)	0.111	/	/
The time for albumin supplement	1.022(0.950,1.101)	0.557	/	/
T _{HSA}	1.002(0.999,1.005)	0.129	/	/
T _{HSA} /ΔALB	1.036(1.013,1.061)	0.003	1.032 (1.005,1.058)	0.018
ESR	1.012(1.000,1.024)	0.058	/	/
CRP	1.003(0.998,1.007)	0.235	/	/
PCT	1.002(0.989,1.016)	0.729	/	/
ALT	1.000(0.998,1.003)	0.668	/	/
AST	1.001(1.000,1.002)	0.108	/	/
Cr	1.002(1.000,1.005)	0.068	/	/
SOFA score	1.296(1.139,1.475)	<0.001	1.205 (1.037,1.399)	0.015
APACHEII score	1.153(1.066,1.247)	<0.001	1.103 (1.007,1.208)	0.035

Abbreviations: SBP, systolic blood pressure; DBP, diastolic blood pressure; T_{HSA} , total dosage of human serum albumin; T_{HSA}/ΔALB , total dosage of human serum albumin-to-the difference of serum albumin before and after albumin supplement ratio; ESR, erythrocyte sedimentation rate; CRP, C-reactive protein; PCT, procalcitonin; ALT, glutamic-pyruvic transaminase; AST, glutamic oxaloacetic transaminase; Cr, creatinine; SOFA, sequential organ failure assessment; APACHEII, Acute Physiology and Chronic Health Evaluation II.

Univariate and multivariate analyses were carried out using a logistic regression model. *P* values indicate differences between survivors and non-survivors of septic patients with hypoproteinemia. *P* < 0.05 was considered statistically significant.

Table 4 Comparison of the biomarkers for predicting the prognosis of septic patients with hypoproteinemia using ROC analysis

Variables	AUC	Youden index	95%CI	Cutoff	Sensitivity	Specificity
T _{HSA} /ΔALB	0.800	0.554	0.712-0.887	20.3	93.1%	62.3%
SOFA score	0.802	0.532	0.703-0.900	6.5	79.3%	73.9%
APACHE II score	0.766	0.413	0.666-0.865	10.5	86.2%	55.1%

Abbreviations: T_{HSA}/ΔALB, total dosage of human serum albumin-to-the difference of serum albumin before and after albumin supplement ratio; SOFA, sequential organ failure assessment; APACHE II, Acute Physiology and Chronic Health Evaluation II; AUC: Area under curve; CI: Confidential interval.

ROC analysis was constructed to compare prognostic performance and to determine the optimal cutoff points for the biomarkers.