

Supplementary Table S1. Association of low SMI at level L3 and clinical outcomes compared

	high SMI at level L3	low SMI at level L3		AUC
	<i>n</i> (%) of Patients with high SMI*	<i>n</i> (%) of Patients with low SMI	OR or Coefficient (95% CI)	
			p value, adjusted for age, BMI, nutritional support intervention, contributing center, presence of stroke, COPD, hypertension, diabetes, chronic heart failure	
	<i>n</i> = 388	<i>n</i> = 131		
Primary endpoint				
Adverse clinical outcome within 30 days	113 (29.1%)	39 (29.8%)	1.1 (0.68, 1.79), <i>p</i> = 0.680	0.50
Short-term endpoints				
30-day all-cause mortality	36 (9.3%)	16 (12.2%)	1.61 (0.79, 3.28), <i>p</i> = 0.192	0.53
Rehospitalisation within 30 days	48 (12.4%)	13 (9.9%)	0.77 (0.38, 1.56), <i>p</i> = 0.470	0.48
Mean length of stay, days (SD)	10.1 (7.1)	10.1 (7.1)	-0.02 (-2.55, 1.49), <i>p</i> = 0.974	-
Decline Barthel index score (points)) after 30 days	59 (15.2%)	20(15.3%)	1.09 (0.58, 2.05), <i>p</i> = 0.771	0.50
Long-term endpoints				
180-day all-cause mortality	126 (32.5%)	40 (30.5%)	0.98 (0.54, 1.46) <i>p</i> = 0.660	0.49

Abbreviations: SD denotes standard deviation; OR denotes odds ratio; CI denotes confidence interval; AUC denotes area under the curve

Supplementary Table S2. Association of low SMI and clinical outcomes in different subgroups

	high SMI	low SMI		AUC	Male	Female	NRS ≥ 4	NRS < 4	Age ≥ 80 years	Age < 80 years
	<i>n</i> (%) of patients with high SMI	<i>n</i> (%) of patients with low SMI	OR or *Coefficient (95% CI)		OR or Coefficient (95% CI)	OR or Coefficient (95% CI)	OR or Coefficient (95% CI)	OR or Coefficient (95% CI)	OR or Coefficient (95% CI)	OR or Coefficient (95% CI)
			<i>p</i> value, adjusted		<i>p</i> value, adjusted	<i>p</i> value, adjusted	<i>p</i> value, adjusted	<i>p</i> value, adjusted	<i>p</i> value, adjusted	<i>p</i> value, adjusted
	<i>n</i> = 496	<i>n</i> = 167								
Primary endpoint										
Adverse clinical outcome within 30 days	135 (27.2%)	52 (31.1%)	1.6 (1.03 to 2.5), <i>p</i> = 0.037	0.52	1.58 (0.87, 2.87), <i>p</i> = 0.131	1.1 (0.56, 2.16), <i>p</i> = 0.775	1.48 (0.89, 2.44), <i>p</i> = 0.13	0.93 (0.41, 2.13), <i>p</i> = 0.873	1.73 (0.74, 4.02), <i>p</i> = 0.203	1.16 (0.73, 1.83), <i>p</i> = 0.533
Short-term endpoints										
30-day all-cause mortality	45 (9.1%)	19 (11.4%)	1.63 (0.83 to 3.21), <i>p</i> = 0.158	0.52	2.19 (0.92, 5.21), <i>p</i> = 0.076	1.21 (0.41, 3.58), <i>p</i> = .737	1.85 (0.88, 3.92), <i>p</i> = 0.106	1.19 (0.31, 4.57), <i>p</i> = 0.805	3.33 (1.02, 10.86), <i>p</i> = 0.046	1.12 (0.54, 2.32), <i>p</i> = 0.762
Rehospitalisation within 30 days	53 (10.7%)	19 (11.4%)	1.22 (0.65 to 2.29), <i>p</i> = 0.534	0.51	0.79 (0.33, 1.88), <i>p</i> = 0.589	1.33 (0.53, 3.37), <i>p</i> = 0.545	0.98 (0.47, 2.06), <i>p</i> = 0.967	1.2 (0.41, 3.5), <i>p</i> = 0.743	0.98 (0.23, 4.19), <i>p</i> = 0.98	1 (0.54, 1.87), <i>p</i> = 0.99
Mean length of stay, days (SD)	10.0 (6.9)	10.1 (7.5)	-0.23 (-1.62 to 1.16), <i>p</i> = 0.743	-	0.28 (-1.7, 2.27), <i>p</i> = 0.779	0.26 (-1.65, 2.17), <i>p</i> = 0.789	1.02 (-0.64, 2.68), <i>p</i> = 0.229	-1.72 (-3.89, 0.45), <i>p</i> = 0.119	-0.2 (-2.67, 2.28), <i>p</i> = 0.876	0.32 (-1.16, 1.81), <i>p</i> = 0.67
Decline Barthel's Index score (points) after 30 days	68 (13.7%)	29 (17.4%)	1.5 (0.85 to 2.66), <i>p</i> = 0.161	0.53	2.02 (0.96, 4.26), <i>p</i> = 0.065	1.47 (0.61, 3.54), <i>p</i> = 0.393	1.67 (0.88, 3.18), <i>p</i> = 0.117	1.47 (0.53, 4.07), <i>p</i> = 0.463	3.6 (1.33, 9.78), <i>p</i> = 0.012	1.07 (0.58, 2), <i>p</i> = 0.823
Long-term endpoint										
180-day all-cause mortality	147 (29.6%)	47 (28.1%)	0.82 (0.5 to 1.35), <i>p</i> = 0.445	0.49	1.03 (0.56, 1.89), <i>p</i> = 0.929	1.22 (0.6, 2.47), <i>p</i> = 0.579	1.09 (0.65, 1.83), <i>p</i> = 0.745	0.88 (0.35, 2.21), <i>p</i> = 0.79	0.73 (0.32, 1.68), <i>p</i> = 0.457	1.06 (0.66, 1.7), <i>p</i> = 0.816

Abbreviations: SD denotes standard deviation; OR denotes odds ration; AUC denotes area under the curve; BMI denotes body mass index; NRS denotes nutritional risk screening 2002

P values were adjusted for important confounders including age, BMI, nutritional support intervention, contributing center, presence of stroke, COPD, hypertension, diabetes, chronic heart failure

Supplementary Table S3. Effects of nutritional support on clinical outcomes of patients in the lowest and in the other three quartiles of SMI at level L3

	high SMI			low SMI			
	Control group (<i>n</i> = 177)	Intervention group (<i>n</i> = 211)	OR or Coefficient (95% CI), <i>p</i> value adjusted	Control group (<i>n</i> = 67)	Intervention group (<i>n</i> = 64)	OR or Coefficient (95% CI), <i>p</i> value adjusted	<i>p</i> for interaction
Primary endpoint							
Adverse clinical outcome within 30 days	55 (31.1%)	58 (27.5%)	0.84 (0.54, 1.30), <i>p</i> = 0.439	24 (36%)	15 (23%)	0.55 (0.26, 1.18), <i>p</i> = 0.123	0.65
Short-term endpoints							
30-day all-cause mortality	20 (11.3%)	16 (7.6%)	0.64 (0.32, 1.28), <i>p</i> = 0.212	10 (15%)	6 (9%)	0.59 (0.20, 1.73), <i>p</i> = 0.336	0.91
Rehospitalisation within 30 days	21 (11.9%)	27 (12.8%)	1.09 (0.59, 2.00), <i>p</i> = 0.781	7 (10%)	6 (9%)	0.89 (0.28, 2.79), <i>p</i> = 0.837	0.81
Length of hospital stay	10.1 (6.5)	10.1 (7.5)	0.48 (-1.37, 1.46), <i>p</i> = 0.947	11.1 (7.6)	9.0 (6.4)	-2.08 (-4.52, 0.36), <i>p</i> = 0.094	
Decline Barthel index Score	35 (18.8%)	24 (11.4%)	0.52 (0.29, 0.91), <i>p</i> = 0.023	15 (22%)	5 (8%)	0.29 (0.09, 0.86), <i>p</i> = 0.026	0.56
Long-term endpoints							
180-day all-cause mortality	58 (32.8%)	68 (32.2%)	0.97 (0.63, 1.49), <i>p</i> = 0.910	25 (37%)	15 (23%)	0.51 (0.24, 1.10), <i>p</i> = 0.087	0.52

Abbreviations: OR denotes odds ratio; CI denotes Confidence Interval

P values were adjusted for important confounders including age, BMI, nutritional support intervention, contributing center, presence of stroke, COPD, hypertension, diabetes, chronic heart failure