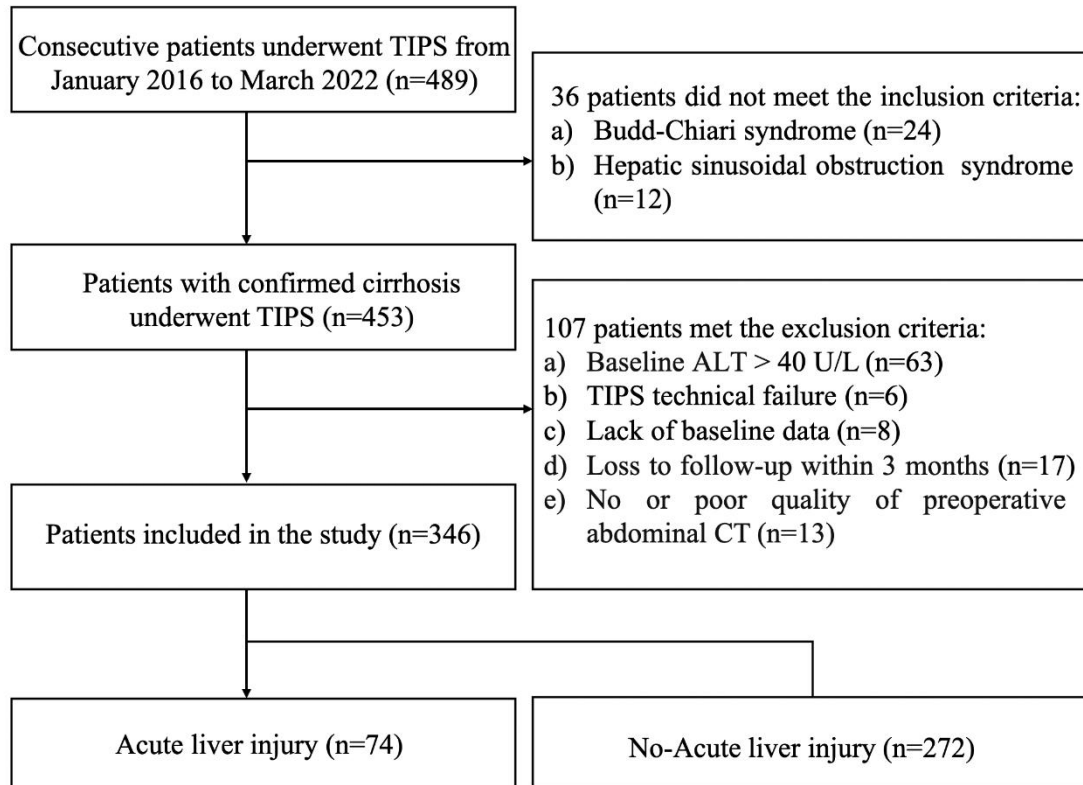
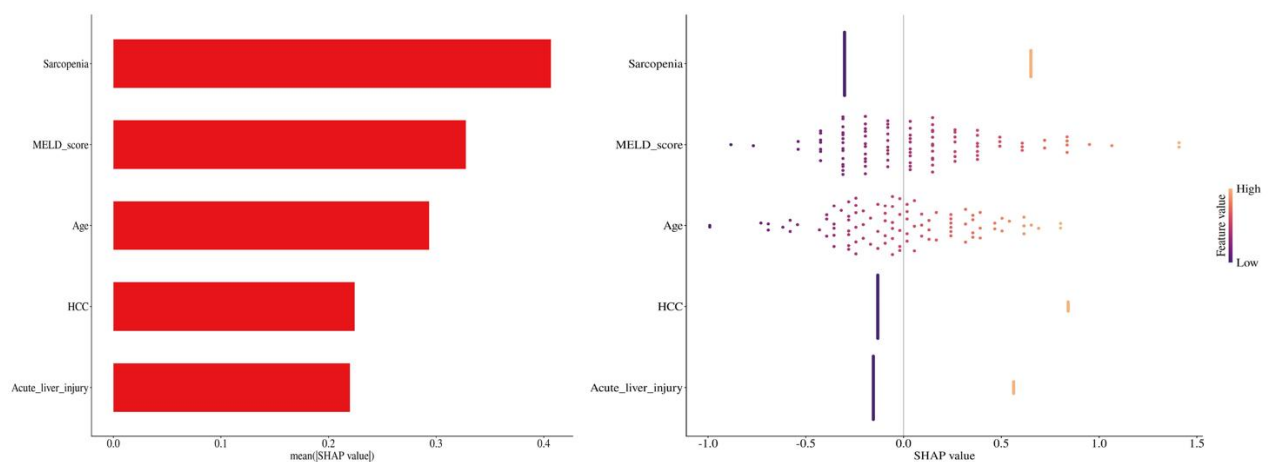




Supplementary Figure 1 Flowchart of patient selection for transjugular intrahepatic portosystemic shunt procedure.



Supplementary Figure 2 SHapley Additive exPlanations analysis of the five independent predictors for post-transjugular intrahepatic portosystemic shunt mortality. Bar plot (left) shows global importance; BeeSwarm plot (right) shows direction and magnitude of effects.

Supplementary Table 1 Demographic and clinical characteristics of patients in training set and validation set who underwent transjugular intrahepatic portosystemic shunt

Variables	Training set (n=242)	Validation set (n=104)	P value
Age	55.2±10.9	52.8±12.4	0.089
Gender			0.709
male	174 (71.9)	72 (69.2)	
female	68 (28.1)	32 (30.8)	
BMI	22.6±3.10	22.7±2.7	0.790
Virus related cirrhosis			0.521
no	143 (59.1)	66 (63.5)	
yes	99 (40.9)	38 (36.5)	
Ascites			0.171
no	71 (29.3)	39 (37.5)	
yes	171 (70.7)	65 (62.5)	
Diabetes			0.187
no	196 (81.0)	91 (87.5)	
yes	46 (19.0)	13 (12.5)	
Hypertension			0.248
no	219 (90.5)	89 (85.6)	
yes	23 (9.5)	15 (14.4)	
HCC			0.066
no	204 (84.3)	96 (92.3)	
yes	38 (15.7)	8 (7.7)	
WBC	4.1±2.9	4.8±3.4	0.065
RBC	3.0±0.7	3.0±0.8	0.990
Hb	82.1±23.1	81.1±25.0	0.724
Platelets	83.8±59.5	93.4±73.6	0.239

ALT	21.0±8.3	19.9±7.9	0.252
AST	30.1±11.6	30.3±14.4	0.881
TBIL	23.5±13.9	23.8±17.7	0.884
DBIL	12.0±9.8	11.9±12.2	0.972
IBIL	11.5±7.4	12.0±8.1	0.641
Albumin	33.0±5.4	32.5±5.4	0.484
Prealbumin	95.2±39.1	94.1±35.6	0.781
Globulin	28.1±6.9	28.1±7.4	0.967
BUN	6.9±4.8	6.6±3.7	0.616
Creatinine	67.3±27.8	79.3±89.9	0.184
PT	15.3±2.7	15.2±2.9	0.758
MELD score	9.8±4.0	9.6±4.4	0.664
Child Pugh score	7.4±1.5	7.3±1.5	0.850
Child Pugh class:			0.996
A	61 (25.2)	26 (25.0)	
B	140 (57.9)	60 (57.7)	
C	41 (16.9)	18 (17.3)	
INR	1.3±0.2	1.3±0.2	0.758
TPMT	11.5±3.4	11.6±3.6	0.680
Sarcopenia			0.867
no	166 (68.6)	73 (70.2)	
yes	76 (31.4)	31 (29.8)	

TIPS: transjugular intrahepatic portosystemic shunt; BMI: body mass index; HCC: hepatocellular carcinoma; Hb: hemoglobin; WBC: white blood cell; RBC: red blood cell; TBIL: total bilirubin; DBIL: direct bilirubin; IBIL: indirect bilirubin; ALT: alanine aminotransferase; AST: aspartate aminotransferase; BUN: blood urea nitrogen; INR: international normalized ratio; PT: prothrombin time; MELD: model for end-stage liver disease; TPMT: transversal psoas muscle thickness.

Supplementary Table 2 Comparison of overt hepatic encephalopathy rates and overall survival rates between acute liver injury group and no-acute liver injury group

	Acute liver injury	No-acute liver injury	Chi square value	Log-rank P value
3-mo overt HE rates (95% CI), %	45.8 (34.4-51.5)	28.0 (33.3-22.7)		
6-mo overt HE rates (95% CI), %	52.7 (41.1-64.3)	35.0 (40.7-29.3)		
12-mo overt HE rates (95% CI), %	54.3 (42.7-65.9)	39.0 (44.9-33.1)		
18-mo overt HE rates (95% CI), %	55.9 (67.5-44.3)	41.1 (47.2-35.0)		
Comparison of two groups			8.081	0.005
6-mo OS rate (95% CI), %	77.0 (67.4-86.6)	94.5 (91.8-97.2)		
12-mo OS rate (95% CI), %	70.3 (61.3-79.3)	90.8 (87.3-94.3)		
24-mo OS rate (95% CI), %	68.4 (57.6-79.2)	80.4 (75.5-85.3)		
36-mo OS rate (95% CI), %	68.4 (57.6-79.2)	77.1 (71.6-82.6)		
Comparison of two groups			4.979	0.025

HE: hepatic encephalopathy; overall survival: OS

Supplementary Table 3 Univariable and multivariable Cox Regression Analysis for Survival in the training set

Variables	Univariate			Multivariate		
	HR	95% CI	P value	HR	95% CI	P value
Age (years)	1.039	1.015-1.063	0.002	1.041	1.016-1.066	0.001
Gender (Male/Female)	0.673	(0.371, 1.221)	0.192			
BMI (kg/m ²)	0.935	(0.856, 1.020)	0.129			
Aetiology (Viral hepatitis/ Other)	0.909	(0.545, 1.516)	0.715			
Hypertension (Yes/ No)	1.060	(0.457, 2.460)	0.892			
Diabetes (Yes/ No)	1.290	(0.711, 2.340)	0.402			
HCC	2.621	(1.512, 4.546)	0.001	2.157	(1.144-4.066)	0.018
Hb (g/L)	1.002	(0.991, 1.012)	0.741			
WBC (×10 ⁹ /L)	1.030	(0.947, 1.121)	0.490			
Platelets (×10 ⁹ /L)	0.998	(0.994, 1.003)	0.435			
Prealbumin (g/L)	0.989	(0.982, 0.996)	0.002			

Globulin (g/L)	1.037	(1.001,	0.043			
		1.075)				
ALT (U/L)	1.014	(0.984,	0.361			
		1.044)				
AST (U/L)	1.033	(1.015,	<0.001	0.998	0.980-1.017	0.837
		1.052)				
BUN	1.043	(1.006,	0.022	1.010	0.969-1.052	0.643
		1.081)				
Child-Pugh	1.370	(1.171,	<0.001	1.184	0.977-1.436	0.086
score		1.603)				
MELD score	1.117	(1.058,	<0.001	1.096	1.012-1.178	0.013
		1.180)				
Sarcopenia	2.685	(1.631,	<0.001	2.257	1.356-3.756	0.002
(Yes/No)		4.420)				
Acute liver injury	1.746	(1.008,	0.047	2.379	1.405-4.028	0.001
		3.024)				

TIPS: transjugular intrahepatic portosystemic shunt; BMI: body mass index; HCC: hepatocellular carcinoma; Hb: hemoglobin; WBC: white blood cell; RBC: red blood cell; TBIL: total bilirubin; DBIL: direct bilirubin; IBIL: indirect bilirubin; ALT: alanine aminotransferase; AST: aspartate aminotransferase; BUN: blood urea nitrogen; INR: international normalized ratio; PT: prothrombin time; MELD: model for end-stage liver disease; TPMT: transversal psoas muscle thickness.