Supplement Data

Figure S1 Flowchart of patient selection
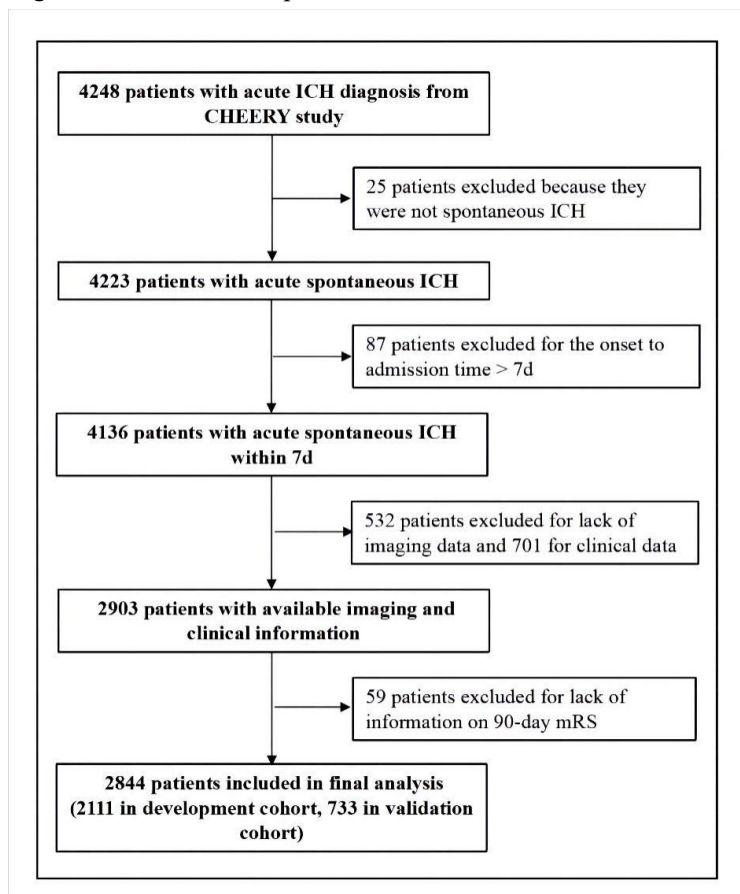
Table S1 Baseline Characteristics of Included and Excluded Patients

Characteristics	Included (N=2844)	Excluded (N=1404)	*P* Value	Excluded (N=1102)#	*P* Value
Demographic characteristics					
Age, years	62(53-70)	61(52-70)	0.536	61(52-70)	0.316
Male	1920(67.5)	935/1404(66.6)	0.550	729/1102(66.2)	0.415
Medical history					
Ischemic stroke	288(10.1)	119/1371(8.7)	0.136	82/1070(7.7)	0.019
Ischemic heart disease	99(3.5)	59/1371(4.3)	0.188	41/1070(3.8)	0.598
Hypertension	1838(64.6)	852/1370(62.2)	0.123	667/1070(62.3)	0.183
Hyperlipidemia	69(2.4)	47/1370(3.4)	0.062	40/1070(3.7)	0.026
Diabetes	261(9.2)	120/1370(8.8)	0.658	90/1070(8.4)	0.455
Admission characteristics					
Pre-stroke mRS	0(0-0)	0(0-0)	0.075	0(0-0)	0.005
SBP, mm Hg	167(150-187)	160(140-182)	<0.001	160(140-180)	<0.001
Baseline NIHSS	8(4-15)	10(3-18)	<0.001	9(3-16)	0.329
Deep location	2336(82.1)	996/1209(82.4)	0.852	785/965(81.3)	0.581
Hematoma volume, mL	12.0(5.0-26.0)	14.1(5.9-28.0)	0.011	14.3(5.9-28.0)	0.011
IVH	321(11.3)	446/1404(31.8)	<0.001	144/1102(13.1)	0.120
Admission laboratory values					
WBC, $\times10^9$/L	8.4(6.4-10.9)	9.0(6.7-11.7)	<0.001	8.4(6.4-11.4)	0.209
Hb, g/L	136(124-147)	133(121-146)	0.001	134(121-146)	0.006
PLT, $\times10^9$/L	195(155-238)	191(150-238)	0.158	188(147-234)	0.060
ANC, $\times10^9$/L	6.3(4.5-9.1)	7.1(4.9-10.2)	<0.001	6.7(4.5-9.9)	0.039
ALC, $\times10^9$/L	1.2(0.8-1.6)	1.1(0.7-1.6)	0.012	1.1(0.8-1.6)	0.121
ALT, U/L	18(13-26)	18(13-28)	0.328	19(13-29)	0.054
AST, U/L	23(18-30)	22(17-29)	0.051	22(17-30)	0.055
Cr, umol/L	68(56-84)	69(57-84)	0.526	68(57-84)	0.495
UA, μmol/L	308(243-383)	293(223-371)	<0.001	293(223-372)	<0.001
FBG, mmol/L	6.2(5.3-7.7)	6.3(5.4-7.8)	0.305	6.1(5.2-7.4)	0.016
INR	1.0(0.9-1.1)	1.0(1.0-1.1)	<0.001	1.0(1.0-1.1)	0.013
Outcome					
Death at 90 days	469(16.5)	236/1226(19.2)	0.033	169/932(18.1)	0.246
mRS at 90 days					
0-2	1405(49.4)	545/1226(44.5)	0.004	448/932(48.1)	0.480
3-6	1439(50.6)	681/1226(55.5)		484/932(51.9)	

\# 302 patients were excluded for IVH with unavailable hematoma volume in excluded set.

mRS indicates the modified Rankin Scale; SBP, systolic blood pressure; NIHSS, the National Institutes of Health Stroke Scale; IVH, intraventricular hemorrhage; WBC, White blood cell count; Hb, Hemoglobin; PLT, Platelet; ANC, Absolute neutrophil count; ALC, Absolute lymphocyte count; ALT, Glutamic pyruvic transaminase; AST, Aspertate aminotransferase; Cr, Creatinine; UA, Uric Acid; FBG, Fasting blood-glucose; INR, International normalized ratio.

Table S2 Comparison of the screening characteristics and scores of ICH models

ADVISING		MICH		ICHOP		ICH Score		ICH-GS		ICH-FOS	
Characteristic	Point	Characteristic	Point	Characteristic	Point	Characteristic	Point	Characteristic	Point	Characteristic	Point
Age, years		-		-		Age, years		Age, years		Age, years	
<60	0					<80	0	<45	1	≤59	0
≥60	1					≥80	1	45–64	2	60-69	1
								≥65	3	70-79	2
										≥80	4
NIHSS score		-		NIHSS score		-		-		NIHSS score	
0-5	0			0	0					0-5	0
6-15	2			1–4	1					6-10	2
16-40	3			5–15	2					11-15	3
				16–20	3					16-20	4
				21–42	4					≥21	5
-		GCS score		GCS score		GCS score		GCS score		GCS score	
		15–13	0	13–15	0	13–15	0	13–15	1	15-13	0
		12–5	1	9–12	1	5–12	1	9–12	2	9-12	1
		4–3	2	3–8	2	3–4	2	3–8	3	3-8	2
Deep location		-		-		ICH location		ICH location		ICH location	
No	0					Supratentorial	0	Supratentorial	1	Supratentorial	0
Yes	1					Infratentorial	1	Infratentorial	2	Infratentorial	1
Hematoma volume, ml		ICH volume, mL		Hematoma volume, mL		ICH volume, mL		ICH volume, mL		ICH volume, mL	
<30	0	≤20	0	0	0	<30	0	For supratentorial location		For supratentorial location	
30-60	1	21–50	1	1–30	1	≥30	1	<40	1	<40	0
>60	2	≥51	2	>30	2			40–70	2	40-70	2
								>70	3	>70	2
								For infratentorial location		For infratentorial location	

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								<10	1	<10	0
								10–20	2	10-20	2
								>20	3	>20	2
-		IVH or hydrocephalus	-		IVH		Extension into ventricles		Extension into ventricles		
		No	0		No	0	No	1	No	0	
		Yes	1		Yes	1	Yes	2	Yes	1	
FBG, mmol/L		-		-		-		-		Admission glucose, mmol/L	
<7.0	0									≤11.0	0
≥7.0	1									≥11.1	1
AST, U/L		-		-		-		-		-	
≤40	0										
>40	1										
INR		-		-		-		-		-	
<1.2	0										
≥1.2	1										
NLR		-		-		-		-		-	
≤10	0										
>10	1										
GFR, mL/min/1.73m2	-		-		-		-		-		
≥90	0										
<90	1										
Total score	0-12	Total score	0-5	Total score	0-8	Total score	0–6	Total score	0-13	Total score	0-16

ICH indicates intracerebral hemorrhage; MICH, modified ICH; ICHOP, ICH outcomes project score; ICH-GS, ICH grading scale; ICH-FOS, ICH functional outcome score; NIHSS, the National Institutes of Health Stroke Scale; GCS, Glasgow Coma Scale; IVH, intraventricular hemorrhage; AST, aspertate aminotransferase; INR, international normalized ratio; NLR, neutrophil lymphocyte ratio; GFR, glomerular filtration rate; FBG, fasting blood-glucose.

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Supplemental material

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Table S3 Comparison in predictive power of ADVISING score and other ICH scores in validation cohort

ICH Scores	90-day functional dependence AUC (95% CI)	Difference between ROCs (95% CI)	Z	P
ADVISING	0.879(0.854-0.904)	-		-
MICH	0.757(0.722-0.793)	0.122(0.092-0.150)	8.103	<0.001
ICHOP	0.836(0.808-0.866)	0.043(0.026-0.059)	5.015	<0.001
ICH Score	0.750(0.714-0.786)	0.129(0.098-0.160)	8.110	<0.001
ICH-GS	0.759(0.724-0.794)	0.120(0.089-0.151)	7.592	<0.001
ICH-FOS	0.845(0.816-0.873)	0.034(0.017-0.051)	3.936	<0.001

AUC (95% CI) indicates area under receiver operating characteristic curve (95% Confidence Interval); ICH, intracerebral hemorrhage; MICH, modified ICH; ICHOP, ICH outcomes project score; ICH-GS, ICH grading scale; ICH-FOS, ICH functional outcome score.

Table S4 Comparison in predictive power of ADVISING score and other ICH scores

ICH scores	Frequency (%)	The ADVISING Score				NRI	Z test	P	IDI	Z test	P
		90-day mRS (3-6) (N=391)		90-day mRS (0-2) (N=315)							
		≤50	>50	≤50	>50						
MICH	≤50	42	88	199	48	0.134	3.455	<0.001	0.192	11.039	<0.001
	>50	17	244	33	35						
ICHOP	≤50	53	83	222	50	0.070	2.030	<0.001	0.099	9.189	<0.001
	>50	6	249	10	33						
ICH Score	≤50	50	100	212	51	0.134	3.554	<0.001	0.196	11.617	<0.001
	>50	9	232	20	32						
ICH-GS	≤50	53	125	215	55	0.184	4.618	<0.001	0.209	12.141	<0.001
	>50	6	207	17	28						
ICH-FOS	≤50	45	57	208	34	0.078	2.415	<0.001	0.084	7.636	<0.001
	>50	14	275	24	49						

mRS indicates the modified Rankin Scale; NRI, net reclassification index; IDI, integrated discrimination improvement; ICH, intracerebral hemorrhage; MICH, modified ICH; ICHOP, ICH outcomes project score; ICH-GS, ICH grading scale; ICH-FOS, ICH functional outcome score.