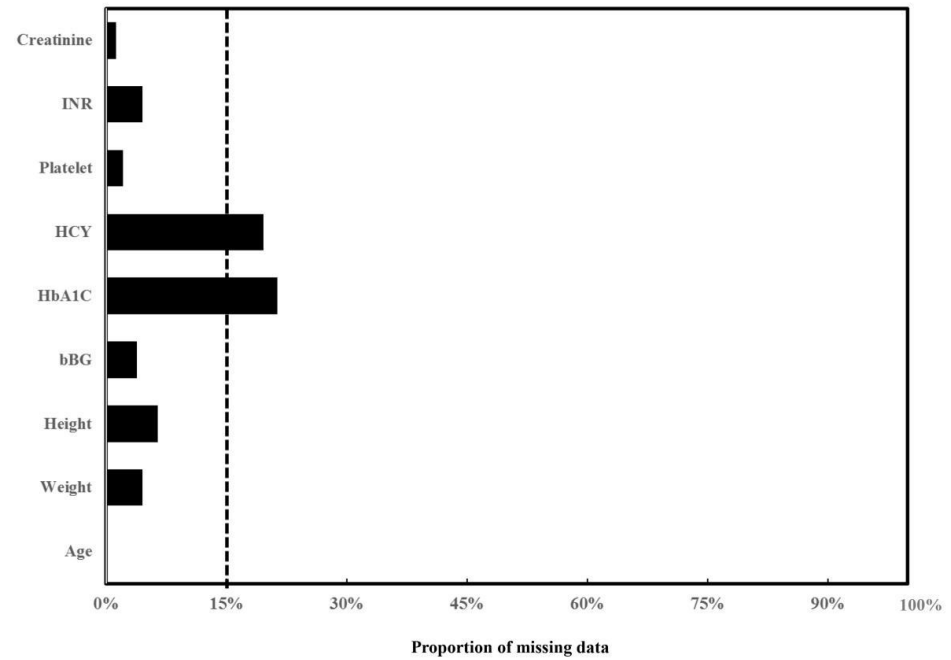


Figure S1. Summary of missing data.



Black bars indicate variables with missing data for more than 15% of patients. INR, international normalized ratio; HCY, homocysteine; HbA1C, glycated hemoglobin; bBG, baseline blood glucose.

Figure S2. Protocol flow chart in this study.

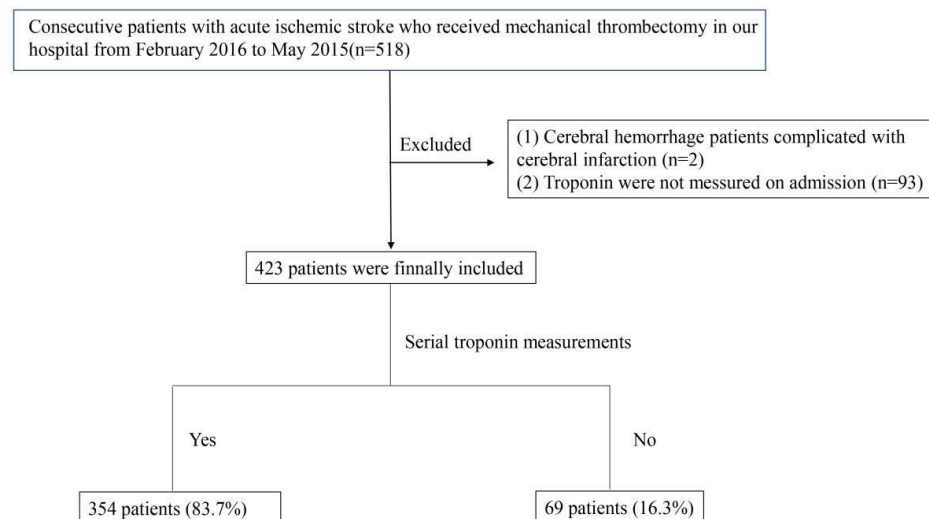


Table S1 Clinical characteristics and mortality of patients, stratified by the presence of hs-cTnI measurement before MT

	hs-cTnI measurement before MT		<i>P</i>
	Yes (n=423)	No (n=95)	
Age >70, n (%)	246(58.2)	46(48.4)	0.084
Male, n (%)	248(58.6)	58(61.1)	0.664
Vascular risk factors			

Hypertension, n(%)	275(65.0)	60(63.2)	0.733
Diabetes mellitus, n(%)	116(27.4)	14(14.7)	0.010
Current smoking, n(%)	75(17.7)	18(18.9)	0.780
Comorbidities			
AF, n(%)	212(50.1)	44(46.3)	0.503
CAD, n(%)	42(9.9)	7(7.4)	0.441
Previous stroke, n(%)	66(15.6)	16(16.8)	0.765
Treatment status			
OTA, min (IQR)	106(60-240)	215(78-335)	0.001
Transfers, n(%)	56(13.2)	52(54.7)	<0.001
Use of IV rtPA, n(%)	115(27.2)	21(22.1)	0.309
Poor reperfusion, n(%)	84(19.9)	22(23.2)	0.471
NIHSS on admission			
0-8*, n(%)	59(13.9)	9(9.5)	0.411
9-16, n(%)	149(35.2)	32(33.7)	
>16, n(%)	215(50.8)	54(56.8)	
Mortality†, n%	119(30.7)	18(20.7)	0.063

*control group

†data were available from 388 patients in the “Yes” group and 87 patients in the “No” group considering the patients lost to follow-up.

hs-cTnI, high-sensitivity cardiac troponin; MT, mechanical thrombectomy; AF, atrial fibrillation; CAD, coronary artery disease; OTA, onset-to-admission time; IQR, interquartile range; IV rtPA, intravenous recombinant tissue plasminogen activator; NIHSS, National Institutes of Health Stroke Scale score.

Table S2. Clinical characteristics and mortality of patients, stratified by the presence of serial measurements in hs-cTnI

	Serial measurements in hs-cTnI		P
	Yes (n=354)	No (n=69)	
Age >70, n (%)	203(57.3)	43(62.3)	0.444

Male, n (%)	207(58.5)	41(59.4)	0.884
Vascular risk factors			
Hypertension, n(%)	230(65.0)	45(65.2)	0.969
Diabetes mellitus, n(%)	98(27.7)	18(26.1)	0.786
Current smoking, n(%)	58(16.4)	17(24.6)	0.101
Comorbidities			
AF, n(%)	179(50.6)	33(47.8)	0.677
CAD, n(%)	39(11.0)	3(4.3)	0.090
Previous stroke, n(%)	62(17.5)	4(5.8)	0.014
Treatment status			
Previous antithrombotic therapy, n%	62(17.5)	10(14.5)	0.541
OTA, min (IQR)	105(60-240)	120(59-278)	0.531
Transfers, n(%)	48(13.6)	8(11.6)	0.659
Use of IV rtPA, n(%)	94(26.6)	21(30.4)	0.507
Poor reperfusion, n(%)	65(18.4)	19(27.5)	0.081
Dual antiplatelet therapy	4(5.6)	46(13.1)	0.071
NIHSS on admission			
0-8*, n(%)	45(12.7)	14(20.3)	0.071
9-16, n(%)	132(37.3)	17(24.6)	
>16, n(%)	177(50.0)	38(55.1)	
Laboratory test			
hs-cTnI elevation on admission, n%	62(17.5)	10(14.5)	0.541
Baseline blood glucose, mmol/L (IQR)	7.10(6.10-8.70)	6.80(5.90-8.60)	0.379
HbA1c, % (IQR)	5.90(5.50-6.83)	6.00(5.60-7.70)	0.292
HCY, µmol/L (IQR)	13.60(10.28-18.90)	12.88(10.05-16.93)	0.279

Platelet, 10 ⁹ /L (IQR)	193(155-230)	184(154-235)	0.843
INR (IQR)	1.02(0.95-1.09)	1.04(0.96-1.10)	0.300
LDL-C mmol/L (IQR)	2.53(1.91-3.32)	2.46(1.94-2.93)	0.449
eGFR, L/min/1.73m ² (IQR)	62.2(45.0-79.5)	59.3(47.5-72.5)	0.546
Stroke location			
posterior circulation, n%	117(33.1)	21(30.4)	0.672
Insula [†] , n%	63(18.3)	9(15.3)	0.577
ICH[†], n%	111(32.2)	15(25.4)	0.301
sICH[†], n%	91(26.4)	19(32.2)	0.353
Mortality[‡], n%	94(29.0)	25(39.1)	0.111

hs-cTnI, high-sensitivity cardiac troponin; AF, atrial fibrillation; CAD, coronary artery disease; OTA, onset-to-admission time; IQR, interquartile range; IV rtPA, intravenous recombinant tissue plasminogen activator; NIHSS, National Institutes of Health Stroke Scale score; HbA1c, glycated hemoglobin; HCY, homocysteine; INR, international normalized ratio; LDL-C, low-density lipoprotein; eGFR, estimated glomerular filtration rate; ICH, Intracranial hemorrhage; sICH, symptomatic intracranial hemorrhage.

*control group

[†] Data were available in 404 patients.

[‡]data were available in 388 patients

Table S3 Clinical characteristics and mortality of patients, stratified by the presence of Insula involvement

	Insula involvement		P
	Yes (n=72)	No (n=332)	
Age >70, n (%)	46(63.9)	189(56.9)	0.278
Male, n (%)	43(59.7)	192(57.8)	0.768
Vascular risk factors			
Hypertension, n(%)	38(52.8)	221(66.6)	0.027
Diabetes mellitus, n(%)	19(26.4)	93(28.0)	0.780
Current smoking, n(%)	13(18.1)	58(17.5)	0.906

Comorbidities

AF, n(%)	43(59.7)	163(49.1)	0.102
CAD, n(%)	7(9.7)	32(9.6)	0.983
Previous stroke, n(%)	14(19.4)	50(15.1)	0.356

AF, atrial fibrillation; CAD, coronary artery disease;

Table S4. Clinical characteristics and mortality according to hs-cTnI on admission.

	hs-cTnI elevation before MT		P
	Yes (n=72)	No (n=351)	
Age >70, n (%)	53(73.6)	193(55.0)	0.004
Male, n (%)	35(48.6)	213(60.7)	0.058
Vascular risk factors			
Hypertension, n(%)	42(58.3)	233(66.4)	0.192
Diabetes mellitus, n(%)	21(29.2)	95(27.1)	0.716
Current smoking, n(%)	7(9.7)	68(19.4)	0.051
Comorbidities			
AF, n(%)	48(66.7)	164(46.7)	0.002
CAD, n(%)	13(18.1)	29(8.3)	0.011
Previous stroke, n(%)	12(16.7)	54(15.4)	0.785
Treatment status			
Previous antithrombotic therapy, n%	19(26.4)	53(15.1)	0.020
OTA, min (IQR)	145(58-275)	105(60-240)	0.564
Transfers, n(%)	9(12.5)	47(13.4)	0.839
Use of IV rtPA, n(%)	14(19.4)	101(28.8)	0.105
Poor reperfusion, n(%)	19(26.4)	65(18.5)	0.127
NIHSS on admission			

0-8*, n(%)	7(9.7)	52(14.8)	0.223
9-16, n(%)	22(30.6)	127(36.2)	
>16, n(%)	43(59.7)	172(49.0)	
Laboratory test			
hs-cTnI dynamic changes [†] , n (%)	36(50.0)	54(15.4)	<0.001
Baseline blood glucose, mmol/L (IQR)	7.30(6.30-8.20)	7.00(6.10-8.80)	0.643
HbA1c, % (IQR)	6.10(5.55-7.00)	5.90(5.50-6.90)	0.478
HCY, μmol/L (IQR)	15.02(10.23-21.05)	13.30(10.12-18.21)	0.249
Platelet, 10 ⁹ /L (IQR)	179(151-228)	194(157-232)	0.327
INR (IQR)	1.06(1.00-1.14)	1.02(0.95-1.09)	<0.001
LDL-C mmol/L (IQR)	2.25(1.69-2.82)	2.58(1.97-3.33)	0.004
eGFR, L/min/1.73m ² (IQR)	55.37(41.12-78.21)	63.48(47.27-78.20)	0.055
Stroke location			
posterior circulation, n%	20(27.8)	118(33.6)	0.336
Insula [‡] , n%	18(26.9)	54(16.0)	0.034
ICH[‡]	21(31.3)	105(31.2)	0.976
sICH[‡]	16(23.9)	94(27.9)	0.500
Mortality**, n%	29(45.3)	90(27.8)	0.005

hs-cTnI, high-sensitivity cardiac troponin; MT, mechanical thrombectomy; AF, atrial fibrillation; CAD, coronary artery disease; OTA, onset-to-admission time; IQR, interquartile range; IV rtPA, intravenous recombinant tissue plasminogen activator; NIHSS, National Institutes of Health Stroke Scale score; HbA1c, glycated hemoglobin; HCY, homocysteine; INR, international normalized ratio; LDL-C, low-density lipoprotein; eGFR, estimated glomerular filtration rate; END, early neurological deterioration; ICH, Intracranial hemorrhage; sICH, symptomatic intracranial hemorrhage.

*control group

[†] Data were available in 354 patients.

[‡]data were available in 404 patients

**data were available in 388 patients

Table S5. Kaplan-Meier survival analysis and multivariate cox regression analysis of the predictors of mortality.

	Univariate model		Multivariable model 1		Multivariable model 2	
	HR(95% CI)	p	aHR(95% CI)	p	aHR(95% CI)	p
Age>70, n (%)	1.892(1.314-2.725)	<0.001				
Male, n (%)	1.087(0.753-1.569)	0.657				
Vascular risk factors						
Hypertension, n(%)	1.607(1.104-2.338)	0.013	1.645(1.035-2.615)	0.035	1.747(1.066-2.862)	0.027
Diabetes mellitus, n(%)	1.190(0.794-1.784)	0.399				
Current smoking, n(%)	0.949(0.590-1.527)	0.829				
Comorbidities						
AF, n(%)	1.064(0.741-1.529)	0.736				
CAD, n(%)	1.158(0.627-2.137)	0.639				
Previous stroke, n(%)	1.030(0.625-1.697)	0.908				
Treatment status						
Previous antithrombotic therapy, n%		0.700				
OTA>270 min, n(%)	0.915(0.579-1.445)	0.703				
Transfers, n(%)	1.194(0.698-2.040)	0.518				
Use of IV rtPA, n(%)	0.558(0.373-0.833)	0.004	0.426(0.236-0.772)	0.005	0.427(0.231-0.791)	0.007
Poor reperfusion, n(%)	5.038(3.081-8.239)	<0.001	2.881(1.865-4.452)	<0.001	2.719(1.706-4.336)	<0.001
Dual antiplatelet therapy, n(%)	0.452(0.265-0.774)	0.004				
NIHSS on admission		<0.001		<0.05		
0-8*, n(%)						

9-16, n(%)	2.979(1.045-8.494)	0.041	2.230(0.771-6.453)	0.139	3.459(1.031-11.610)	0.045
>16, n(%)	7.571(2.778-20.634)	<0.001	4.692(1.704-12.918)	0.003	8.052(4.409-14.705)	0.001
Laboratory test						
hs-cTnI elevation on admission, n(%)	1.907(1.162-3.131)	0.011				
hs-cTnI dynamic changes, n (%)	2.618(1.610-4.256)	<0.001	1.613(1.056-2.463)	0.027	1.597(1.022-2.495)	0.040
Baseline blood glucose>7mmol/L , n (%)	1.616(1.113-2.349)	0.012				
Platelet, n (%)		0.175				
<100*10 ⁹ /L*						
100-300*10 ⁹ /L						
>300*10 ⁹ /L						
INR, n%		0.545				
<0.82*						
0.82-1.15						
>1.15						
LDL-C >1.8 mmol/L, n%	0.936(0.563-1.557)	0.800				
eGFR<60L/min/1.73m ² , n%	1.485(1.014-2.176)	0.042				
Stroke location						
posterior circulation, n%	2.044(1.383-3.023)	<0.001	1.577(1.044-2.384)	0.030		
Insula lesion, n%		0.204				
sICH, n%	3.531(2.219-5.620)	<0.001			2.259(1.447-3.529)	<0.001

Model 1: adjusted for the age>70, hypertension, use of IV rtPA, dual antiplatelet therapy, Poor reperfusion, NIHSS on admission, baseline blood glucose>7mmol/L, eGFR<60L/min/1.73m², and posterior circulation.

Model 2: adjusted for the age>70, Hypertension, use of IV rtPA, dual antiplatelet therapy, Poor reperfusion, NIHSS on admission, Baseline blood glucose>7mmol/L, eGFR<60L/min/1.73m², posterior circulation, sICH.

HR, hazard ratio; CI, confidence interval; aHR, adjusted hazard ratio; AF, atrial fibrillation; CAD, coronary artery disease; OTA, onset-to-admission time; IV rtPA, intravenous recombinant tissue plasminogen activator; NIHSS, National Institutes of Health Stroke Scale score; hs-cTnI, high-sensitivity cardiac troponin; INR, international normalized ratio; LDL-C, low-density lipoprotein; eGFR, estimated glomerular filtration rate; sICH, symptomatic intracranial hemorrhage.

*control group

Table S6. Comparison of Model 1 among original data and multiple imputation for multivariate cox regression analysis.

	Original data			Multiple Imputation		
	aHR	95% CI	p	aHR	95% CI	p
Hypertension, n(%)	1.805	1.074-3.034	0.026	1.645	1.035-2.615	0.035
Use of IV rtPA, n(%)	0.476	0.256-0.886	0.019	0.426	0.236-0.772	0.005
Poor reperfusion, n(%)	2.444	1.505-3.968	<0.001	2.881	1.865-4.452	<0.001
NIHSS on admission			<0.05			<0.05
0-8*, n(%)						
9-16, n(%)	1.952	0.664-5.735	0.224	2.230	0.771-6.453	0.139
>16, n(%)	4.006	1.440-11.146	0.008	4.692	1.704-12.918	0.003
hs-cTnI dynamic changes, n(%)	1.702	1.082-2.679	0.021	1.613	1.056-2.463	0.027
posterior circulation, n%	1.585	1.014-2.478	0.043	1.577	1.044-2.384	0.030

aHR, adjusted hazard ratio; CI, confidence interval; IV rtPA, use of intravenous recombinant tissue plasminogen activator; NIHSS, National Institutes of Health Stroke Scale score; hs-cTnI, high-sensitivity cardiac troponin.

*control group

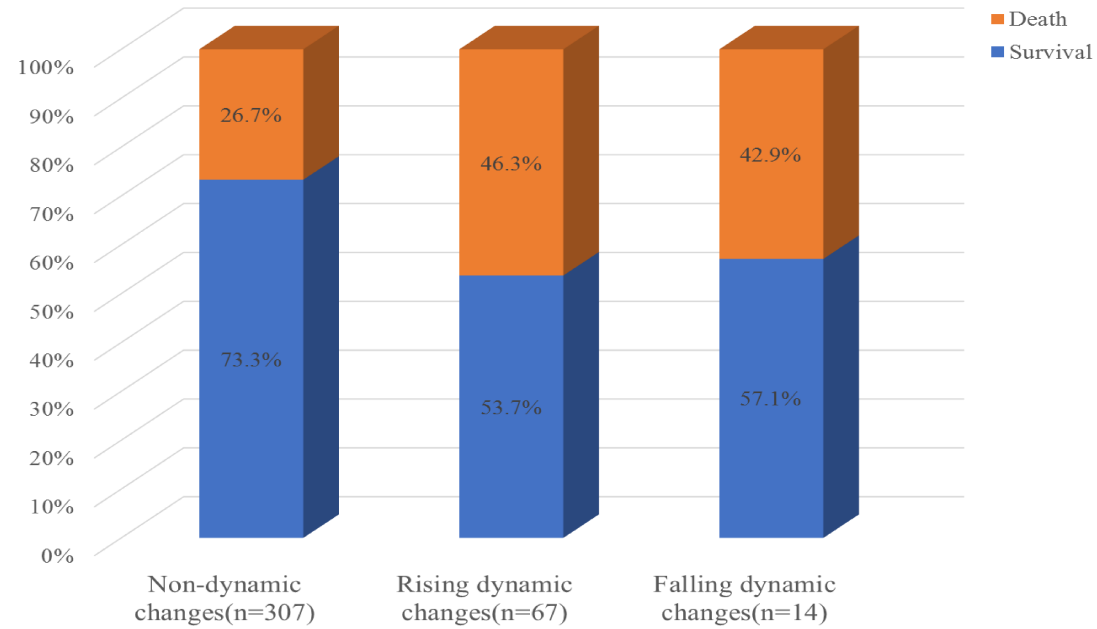
Table S7. Comparison of Model 2 among original data and multiple imputation for multivariate cox regression analysis.

	Original data			Multiple Imputation		
	aHR	95% CI	p	aHR	95% CI	p
Hypertension, n(%)	1.800	1.052-3.081	0.032	1.747	1.066-2.862	0.027
Use of IV rtPA, n(%)	0.452	0.237-0.861	0.016	0.427	0.231-0.791	0.007
Poor reperfusion, n(%)	2.533	1.523-4.213	<0.001	2.719	1.706-4.336	<0.001
NIHSS on admission			<0.001			<0.05
0-8*, n(%)						
9-16, n(%)	3.210	0.940-10.955	0.063	3.459	1.031-11.610	0.045
>16, n(%)	7.901	2.394-26.081	0.001	8.052	4.409-14.705	0.001
hs-cTnI dynamic changes, n (%)	1.753	1.097-2.800	0.019	1.597	1.022-2.495	0.040
sICH, n%	2.621	1.625-4.229	<0.001	2.259	1.447-3.529	<0.001

aHR, adjusted hazard ratio; CI, confidence interval; IV rtPA, use of intravenous recombinant tissue plasminogen activator; NIHSS, National Institutes of Health Stroke Scale score; hs-cTnI, high-sensitivity cardiac troponin; sICH, symptomatic intracranial hemorrhage.

*control group

Figure.S3 Differences in 90-day mortality between groups with non-dynamic, rising and falling dynamic changes.



Notes: The proportions of lost to following-up were 26/333(7.8%) in Non-dynamic changes, 8/75(10.7%) in Rising dynamic changes, 1/15(6.7%) in Falling dynamic changes, respectively.

Table S8. Subgroup analysis to identify relationships between hs-cTnI dynamic changes and mortality

	aHR	95% CI	P	P for interaction
Age, years				0.023
≤ 70			>0.05	
> 70			>0.05	
Sex, n%				>0.05
Female	2.833	1.338-5.996	0.007	
Male			>0.05	
AF, n%				>0.05
No	2.041	1.028-4.053	0.042	
Yes			>0.05	
CAD, n%				>0.05
No			>0.05	
Yes			>0.05	
NIHSS score				>0.05

≤ 8*			>0.05	
9-16			>0.05	
>16			>0.05	
Insula lesion, n%				>0.05
No	1.801	1.119-2.898	0.015	
Yes			>0.05	
posterior circulation, n%				>0.05
No	2.850	1.522-5.336	0.001	
Yes			>0.05	
sICH, n%				>0.05
No	2.631	1.433-4.831	0.002	
Yes			>0.05	
Dual antiplatelet therapy, n%				>0.05
No			>0.05	
Yes			>0.05	

hs-cTnI, high-sensitivity cardiac troponin; aHR, adjusted hazard ratio; CI, confidence interval; AF, atrial fibrillation; CAD, coronary artery disease; NIHSS, National

Institutes of Health Stroke Scale score; sICH, symptomatic intracranial hemorrhage.

*control group