

SUPPLEMENTAL MATERIAL

Supplementary Table 1 Baseline characteristics of enrolled and excluded patients

	Excluded patients (n=1956)	Enrolled patients (n=12026)	<i>P</i>
Age, year	61.84±11.79	62.42±11.19	0.07
Male, n (%)	1349 (68.97)	8244 (68.55)	0.71
NIHSS at admission	3 (2-6)	3 (2-6)	0.55
Time from event to enrollment, day	2 (1-4)	2 (1-4)	0.95
Medical history, n (%)			
Hypertension	1209 (61.81)	7597 (63.17)	0.25
Diabetes mellitus	493 (25.20)	2791 (23.21)	0.05
Stroke	470 (24.03)	2653 (22.06)	0.05
TIA	46 (2.35)	239 (1.99)	0.29
Coronary artery disease	269 (13.75)	1197 (9.95)	<0.001
Atrial fibrillation	155 (7.92)	806 (6.70)	0.05
Hypercholesterolemia	148 (7.57)	907 (7.54)	0.97
Current smoker, n (%)	599 (30.62)	3830 (31.85)	0.28
Heavy drinker, n (%)	277 (14.16)	1704 (14.17)	0.99
Treated with rt-PA	151 (7.72)	1130 (9.40)	0.02
Medication use at discharge, n (%)			
Antiplatelet	1728 (88.34)	10943 (90.99)	<0.001
Anticoagulants	84 (4.29)	336 (2.79)	<0.001
Antihypertensive agent	954 (48.77)	5951 (49.48)	0.55
Lipid-lowering agent	1756 (89.78)	11039 (91.79)	0.003
TOAST classification, n (%)			<0.001
Large-artery atherosclerosis	409 (20.91)	3195 (26.57)	
Cardioembolism	143 (7.31)	720 (5.99)	
Small-artery occlusion	193 (9.87)	2896 (24.08)	
Other determined etiology	7 (0.36)	167 (1.39)	
Undetermined etiology	1204 (61.55)	5048 (41.98)	

Variables are presented as median (interquartile range) or number (%).

Supplementary Table 2 Baseline characteristics of enrolled patients with baseline DWI brain imaging (DWI+) and those without (DWI-) stratified with stroke severity

	NIHSS≤5 (n=8562)			NIHSS>5 (n=3464)		
	DWI- (n=809)	DWI+ (n=7753)	<i>P</i>	DWI- (n=123)	DWI+ (n=3341)	<i>P</i>
Age, year	63 (56-71)	62 (54-69)	0.002	66 (58-74)	64 (56-72)	0.07
Male, n (%)	490 (60.6)	5489 (70.8)	<0.001	63 (51.2)	2202 (65.9)	<0.001
NIHSS at admission	2 (1-3)	2 (1-4)	<0.001	7 (6-9)	8 (7-11)	<0.001
Time from event to enrollment, day	1 (0-3)	2 (1-4)	<0.001	1 (0-3)	2 (1-3)	0.005
Time from event to MRI, day	2 (1-5)	2 (1-4)	0.51	2 (1-4)	2 (1-4)	0.47
Medical history, n (%)						
Hypertension	509 (62.9)	4915 (63.4)	0.79	82 (66.7)	2091 (62.6)	0.36
Diabetes mellitus	184 (22.7)	1803 (23.3)	0.74	24 (19.5)	780 (23.4)	0.32
Stroke	216 (26.7)	1600 (20.6)	<0.001	41 (33.3)	796 (23.8)	0.02
TIA	26 (3.2)	148 (1.9)	0.01	5 (4.1)	60 (1.8)	0.07
Coronary artery disease	101 (12.5)	707 (9.1)	0.002	15 (12.2)	374 (11.2)	0.72
Atrial fibrillation	28 (3.5)	412 (5.3)	0.02	7 (5.7)	359 (10.8)	0.07
Dyslipidemia	76 (9.4)	600 (7.7)	0.10	12 (9.8)	219 (6.6)	0.16
Current smoker, n (%)	208 (25.7)	2609 (33.7)	<0.001	29 (23.6)	984 (29.5)	0.16
Heavy drinker, n (%)	90 (11.1)	1156 (14.9)	0.004	13 (10.6)	445 (13.3)	0.38
Treated with rt-PA	122 (15.1)	460 (5.9)	<0.001	30 (24.4)	518 (15.5)	0.008
Medication use at discharge, n (%)						
Antiplatelet	747 (92.3)	7182 (92.6)	0.76	113 (91.9)	2901 (86.8)	0.10

Anticoagulants	9 (1.11)	186 (2.4)	0.02	4 (3.3)	137 (4.1)	0.64
Antihypertensive agent	336 (41.3)	4002 (51.6)	<0.001	59 (48.0)	1554 (46.5)	0.75
Lipid-lowing agent	731 (90.4)	7207 (93.0)	0.007	115 (93.5)	2986 (89.4)	0.14
TOAST classification, n (%)			<0.001			<0.001
Large-artery atherosclerosis	174 (20.5)	1853 (23.9)		20 (16.3)	1148 (34.4)	
Cardio-embolism	38 (4.7)	413 (5.3)		12 (9.8)	257 (7.7)	
Small-artery occlusion	0	2375 (30.6)		0	521 (15.6)	
Other determined etiology	13 (1.6)	104 (1.34)		2 (1.6)	48 (1.4)	
Undetermined etiology	584 (72.2)	3008 (38.8)		89 (72.4)	1367 (40.9)	

Supplementary Table 3 Three-month prognosis of patients with baseline DWI brain imaging (DWI+) and those without (DWI-) stratified with stroke severity

Outcome	DWI-	DWI+	Model 1		Model 2	
	Events (%)	Events (%)	HR/OR (95%CI)	P	HR/OR (95%CI)	P
Total (n=12026)	(n=932)	(n=11094)				
Stroke recurrence	32 (3.43)	707 (6.37)	0.51 (0.36-0.73)	0.002	0.50 (0.35-0.71)	0.001
New ischemic stroke	30 (3.22)	665 (5.99)	0.51 (0.35-0.74)	0.003	0.48 (0.33-0.69)	0.001
Recurrent hemorrhage stroke	2 (0.21)	54 (0.49)	0.45 (0.11-1.84)	0.27	0.64 (0.15-2.70)	0.54
Combined vascular event	32 (3.43)	730 (6.58)	0.50 (0.35-0.71)	0.001	0.54 (0.37-0.77)	<0.001
Death from any cause	6 (0.64)	154 (1.39)	0.41 (0.18-0.94)	0.03	0.56 (0.25-1.30)	0.18
Poor functional outcome*	58 (6.30)	1666 (15.20)	0.35 (0.26-0.45)	<0.001	0.52 (0.39-0.70)	<0.001
NIHSS≤5 (n=8562)	(n=809)	(n=7753)				
Stroke recurrence	26 (3.21)	457 (5.89)	0.52 (0.35-0.77)	0.001	0.46 (0.30-0.68)	0.001
New ischemic stroke	24 (2.97)	436 (5.62)	0.50 (0.33-0.76)	0.001	0.43 (0.28-0.66)	<0.001
Recurrent hemorrhage stroke	2 (0.25)	28 (0.36)	0.70 (0.17-2.96)	0.63	0.84 (0.19-3.74)	0.82
Combined vascular event	26 (3.21)	467 (6.02)	0.51 (0.34-0.76)	<0.001	0.51 (0.34-0.76)	0.001
Death from any cause	4 (0.49)	56 (0.72)	0.62 (0.23-1.72)	0.36	0.50 (0.18-1.40)	0.18
Poor functional outcome*	39 (4.88)	559 (7.28)	0.59 (0.42-0.83)	0.002	0.60 (0.42-0.85)	0.004
NIHSS > 5 (n=3464)	(n=123)	(n=3341)				
Stroke recurrence	6 (4.88)	250 (7.48)	0.61 (0.27-1.38)	0.23	0.71 (0.31-1.63)	0.42
New ischemic stroke	6 (4.88)	229 (6.85)	0.67 (0.30-1.50)	0.32	0.76 (0.33-1.73)	0.51
Recurrent hemorrhage stroke	0	26 (0.78)	-	-	-	-
Combined vascular event	6 (4.88)	263 (7.87)	0.58 (0.26-1.30)	0.19	0.65 (0.29-1.48)	0.31
Death from any cause	2 (1.63)	98 (2.93)	0.45 (0.11-1.84)	0.27	0.73 (0.18-3.03)	0.66

Poor functional outcome*	19 (15.83)	1107 (33.72)	0.34 (0.21-0.56)	<0.001	0.42 (0.25-0.70)	0.001
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Model 1: Adjusted for: age, sex;

Model 2: Adjusted for: age, sex, NIHSS at admission, event-to-enrollment time, medical history of stroke, TIA, coronary artery disease, atrial fibrillation, dyslipidemia, current smoker, heavy drinker, treated with rt-PA, anticoagulants, antihypertensive agent and TOAST classification.

*Modified Rankin Scale score was missing for 145 patients at 3 months. Logistic regression analysis was conducted in the remaining population.

Supplementary Table 4. One-year prognosis of patients in the subgroup with or without baseline DWI brain imaging stratified with stroke severity (after exclusion of patients with MRI scans more than 7 days and within 2 hours after stroke onset)

Outcome	DWI-	DWI+	Model 1		Model 2	
	Events (%)	Events (%)	HR/OR (95%CI)	P	HR/OR (95%CI)	P
Total (n=11159)	(n=838)	(n=10321)				
Stroke recurrence	53 (6.32)	1018 (9.86)	0.61 (0.46-0.80)	<0.001	0.59 (0.45-0.79)	<0.001
New ischemic stroke	47 (5.61)	946 (9.17)	0.58 (0.43-0.78)	<0.001	0.55 (0.41-0.74)	<0.001
Recurrent hemorrhage stroke	6 (0.72)	87 (0.84)	0.87 (0.38-1.99)	0.74	1.15 (0.49-2.72)	0.75
Combined vascular event	59 (7.04)	1074 (10.41)	0.64 (0.49-0.83)	<0.001	0.69 (0.53-0.90)	0.01
Death from any cause	14 (1.67)	349 (3.38)	0.45 (0.26-0.76)	0.003	0.59 (0.34-1.02)	0.05
Poor functional outcome*	58 (7.13)	1445 (14.34)	0.41 (0.31-0.54)	<0.001	0.58 (0.43-0.77)	<0.001
NIHSS≤5 (n=7939)	(n=729)	(n=7210)				
Stroke recurrence	44 (6.04)	666 (9.24)	0.62 (0.46-0.85)	0.002	0.58 (0.43-0.80)	<0.001
New ischemic stroke	39 (5.35)	625 (8.67)	0.59 (0.43-0.81)	0.001	0.54 (0.39-0.75)	<0.001
Recurrent hemorrhage stroke	5 (0.69)	49 (0.68)	1.03 (0.41-2.60)	0.94	1.32 (0.50-3.48)	0.58
Combined vascular event	50 (6.86)	700 (9.71)	0.68 (0.51-0.90)	0.01	0.71 (0.53-0.96)	0.02
Death from any cause	7 (0.96)	156 (2.16)	0.40 (0.19-0.86)	0.02	0.40 (0.19-0.87)	0.02
Poor functional outcome*	42 (5.90)	557 (7.89)	0.66 (0.47-0.92)	0.01	0.65 (0.47-0.92)	0.02
NIHSS>5 (n=3220)	(n=109)	(n=3111)				
Stroke recurrence	9 (8.26)	352 (11.31)	0.67 (0.35-1.30)	0.23	0.72 (0.37-1.42)	0.35
New ischemic stroke	8 (7.34)	321 (10.32)	0.65 (0.32-1.31)	0.22	0.70 (0.34-1.42)	0.32
Recurrent hemorrhage stroke	1 (0.92)	38 (1.22)	0.81 (0.11-5.91)	0.83	0.86 (0.11-6.50)	0.88
Combined vascular event	9 (8.26)	374 (12.02)	0.63 (0.32-1.22)	0.17	0.67 (0.34-1.30)	0.23
Death from any cause	7 (6.42)	193 (6.20)	0.90 (0.42-1.91)	0.78	1.23 (0.57-2.68)	0.60

Poor functional outcome*	16 (15.84)	888 (29.37)	0.38 (0.22-0.67)	<0.001	0.44 (0.25-0.79)	0.01
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Model 1: Adjusted for: age, sex;

Model 2: Adjusted for: age, sex, NIHSS at admission, event-to-enrollment time, medical history of stroke, TIA, coronary artery disease, atrial fibrillation, dyslipidemia, current smoker, heavy drinker, treated with rt-PA, anticoagulants, antihypertensive agent and TOAST classification.

*Modified Rankin Scale score was missing for 266 patients at 1 year. Logistic regression analysis was conducted in the remaining population.

Supplementary Table 5. One-year prognosis of patients with baseline DWI brain imaging (DWI+) and those without (DWI-) stratified with detailed stroke severity (NIHSS 0-2 minor vs. 3-5 mild vs. 6-13 moderate vs. 14 for severe stroke)

Outcomes	DWI-	DWI+	Model 1		Model 2	
	Events (%)	Events (%)	HR/OR (95%CI)	P	HR/OR (95%CI)	P
0≤NIHSS≤2 (n=4579)	(n=540)	(n=4039)				
Stroke recurrence	30 (5.56)	340 (8.42)	0.62 (0.43-0.90)	0.01	0.56 (0.38-0.82)	0.003
New ischemic stroke	27 (5.00)	317 (7.85)	0.60 (0.40-0.89)	0.01	0.52 (0.35-0.78)	0.002
Recurrent hemorrhage stroke	3 (0.56)	28 (0.69)	0.83 (0.25-2.74)	0.76	1.03 (0.29-3.64)	0.96
Combined vascular event	35 (6.48)	357 (8.84)	0.69 (0.49-0.98)	0.04	0.70 (0.49-1.01)	0.05
Death from any cause	4 (0.74)	64 (1.58)	0.43 (0.16-1.17)	0.10	0.39 (0.14-1.08)	0.07
Poor functional outcome*	23 (4.36)	237 (6.00)	0.64 (0.41-1.00)	0.05	0.60 (0.38-0.95)	0.03
3≤NIHSS≤5 (n=3983)	(n=269)	(n=3714)				
Stroke recurrence	21 (7.81)	376 (10.12)	0.75 (0.48-1.16)	0.20	0.65 (0.42-1.03)	0.06
New ischemic stroke	19 (7.06)	350 (9.42)	0.73 (0.46-1.15)	0.18	0.62 (0.39-0.99)	0.05
Recurrent hemorrhage stroke	2 (0.74)	30 (0.81)	0.94 (0.22-3.95)	0.93	1.16 (0.26-5.16)	0.85
Combined vascular event	22 (8.18)	393 (10.58)	0.75 (0.49-1.15)	0.19	0.74 (0.47-1.14)	0.17
Death from any cause	5 (1.86)	103 (2.77)	0.59 (0.24-1.46)	0.26	0.54 (0.22-1.35)	0.19
Poor functional outcome*	23 (8.78)	272 (10.23)	0.62 (0.39-0.99)	0.05	0.65 (0.41-1.04)	0.07
6≤NIHSS≤13 (n=3030)	(n=118)	(n=2912)				
Stroke recurrence	12 (10.17)	316 (10.85)	0.88 (0.49-1.57)	0.66	0.90 (0.5-1.63)	0.73
New ischemic stroke	11 (9.32)	293 (10.06)	0.87 (0.47-1.58)	0.64	0.90 (0.48-1.66)	0.73
Recurrent hemorrhage stroke	1 (0.85)	28 (0.96)	0.90 (0.12-6.66)	0.92	0.75 (0.10-5.84)	0.79
Combined vascular event	12 (10.17)	334 (11.47)	0.83 (0.47-1.47)	0.52	0.82 (0.46-1.46)	0.49
Death from any cause	7 (5.93)	136 (4.67)	1.10 (0.51-2.35)	0.81	1.16 (0.53-2.53)	0.71

Poor functional outcome*	18 (16.51)	711 (25.14)	0.51(0.3-0.86)	0.01	0.51(0.3-0.89)	0.02
NIHSS ≥ 14 (n=434)	(n=5)	(n=64)				
Stroke recurrence	0	64 (14.92)	-	-	-	-
New ischemic stroke	0	51 (11.89)	-	-	-	-
Recurrent hemorrhage stroke	0	15 (3.50)	-	-	-	-
Combined vascular event	0	69 (16.08)	-	-	-	-
Death from any cause	0	69 (16.08)	-	-	-	-
Poor functional outcome*	1 (20.00)	242 (58.31)	0.15(0.02-1.4)	0.09	0.07(0.01-0.91)	0.04

Model 1: Adjusted for: age, sex;

Model 2: Adjusted for: age, sex, NIHSS at admission, event-to-enrollment time, medical history of stroke, TIA, coronary artery disease, atrial fibrillation, dyslipidemia, current smoker, heavy drinker, treated with rt-PA, anticoagulants, antihypertensive agent and TOAST classification.

*Modified Rankin Scale score was missing for 292 patients at 1 year. Logistic regression analysis was conducted in the remaining population.