Supplemental Materials

Inclusion/Exclusion Criteria

Patients were included if the following criteria were met:

1) Presented with large vessel occlusion of the internal carotid artery, first segment of the middle cerebral artery, or second segment of the middle cerebral artery

2) Baseline non-contrast CT and CT angiography present, with uniform opacification of the superior sagittal, straight, transverse, and sigmoid sinuses to the level of the jugular bulb to allow VO determination

3) Interpretable CT perfusion or magnetic resonance perfusion imaging present

4) Interpretable digital subtraction angiography images present to allow final TICI score assignment after thrombectomy

Patients were excluded by the following criteria:

1) Poor CT angiography image quality due to excessive patient motion or incomplete opacification of the major dural venous sinuses indicating poor study quality

2) Poor CT perfusion or magnetic resonance perfusion image quality due to excessive motion or failed contrast bolus

3) Absence of at least 1 follow-up head non-contrast CT/MRI examination within 72 hours of thrombectomy or hospital admission

Of the 722 patients assessed for eligibility, data from 649 patients were reported in a previous study on the correlation between tissue-level collaterals and VO profiles in AIS patients.[13] Data from 565 patients were reported in another study which assessed the correlation between pre-treatment VO profiles and

thrombectomy success.[6] A total of 580 patients were included into a previous study which assessed the correlation between VO profiles and ischemic edema formation in AIS patients after vessel reperfusion treatment.[14] A recent study which introduced a comprehensive approach of cerebral blood flow in ischemic stroke included 647 patients.[15]

Supplementary Tables

Supplementary Table 1. Functional outcomes at 90 days by venous outflow status

mRS	CVO+ (n = 296)	CVO- (n = 352)	p-value
mRS 0, n (%)	67 (23%)	7 (2%)	
mRS 1, n (%)	75 (25%)	19 (5%)	
mRS 2, n (%)	52 (18%)	11 (3%)	
mRS 3, n (%)	38 (13%)	30 (8%)	<0.001
mRS 4, n (%)	34 (11%)	83 (24%)	
mRS 5, n (%)	13 (4%)	78 (22%)	
mRS 6, n (%)	17 (6%)	124 (35%)	
Good to Excellent Functional Status			
Functional Independence (mRS 0-2), n (%)	194 (66%)	37 (11%)	<0.001
Excellent Functional Outcome (mRS 0-1), n (%)	142 (48%)	26 (7%)	<0.001

Supplementary Table 2. Technical outcomes by venous outflow status

Post-thrombectomy TICI rating	CVO+ (n = 313)	CVO- (n = 358)	p-value
TICI 0	22 (7%)	48 (13%)	<0.001

TICI 1	5 (2%)	8 (2%)	
TICI 2a	16 (5%)	31 (9%)	
TICI 2b	104 (33%)	129 (36%)	
TICI 2c	17 (5%)	14 (4%)	
TICI 3	149 (48%)	128 (36%)	
Good to Excellent Functional Status			
Successful Reperfusion (TICI ≥ 2b)	270 (86%)	271 (76%)	<0.001
Excellent Reperfusion (TICI 2c/3)	166 (53%)	142 (40%)	<0.001