

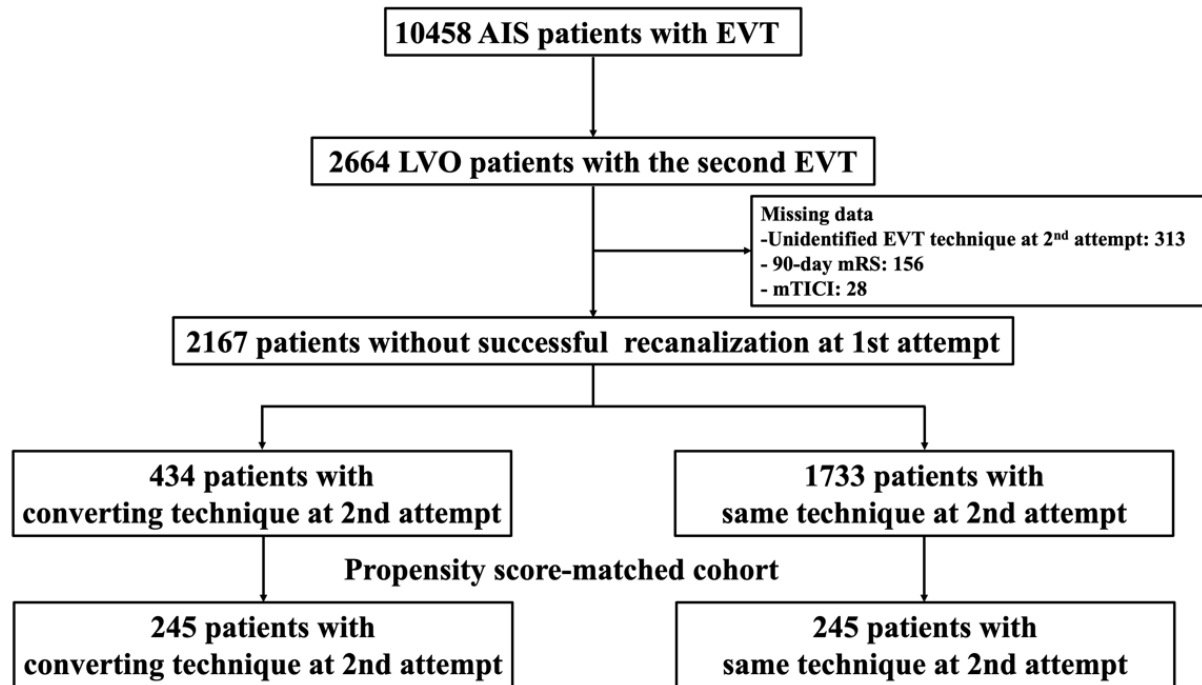
Online Supplement

Improved Technical Outcomes with Converting Thrombectomy Techniques after Failed First Pass Recanalization

Online supplement contains:

1. **Supplementary Tables and Figures**
 - 1.1. **Supplementary Figure 1**
 - 1.2. **Supplementary Table 1**
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1.1 Supplementary Figure 1



Supplementary Figure 1. Patient selection flow chart. AIS, acute ischemic stroke; EVT, endovascular thrombectomy; LVO, large vessel occlusion; mRS, modified Rankin Scale; mTICI, modified Thrombolysis in Cerebral Infarction.

1.2 Supplementary Table 1

Supplementary Table 1. Patient and procedural characteristics in the propensity score-matched cohort.

	Total	Technique at the second attempt		P
	n=490	Alternate, n=245	Same, n=245	
Patient characteristics				
Age, y (median, IQR)*	71.0 (61.0–80.0)	71.0 (61.0–80.0)	71.0 (60.5–80.0)	0.99
Female sex*	235 (48.0)	119 (48.6)	116 (47.4)	0.79
Current smoking*	102 (20.8)	50 (20.4)	52 (21.2)	0.82
Hypertension*	342 (69.8)	171 (69.8)	171 (69.8)	1.00
Diabetes mellitus*	144 (29.4)	73 (29.8)	71 (29.0)	0.84
Atrial fibrillation*	164 (33.5)	84 (34.3)	80 (32.7)	0.70
Dyslipidemia*	246 (50.2)	120 (49.0)	126 (51.4)	0.59
Pre-stroke modified Rankin Scale*	0 (0–1)	0 (0–1)	0 (0–1)	0.62
Admission NIHSS score (median, IQR)*	16 (11–20)	16 (11–20)	16 (11–20)	0.49
ASPECTS (median, IQR)*	8 (6–9)	8 (7–9)	8 (6–10)	0.71
Occluded vessel*				0.95
Internal carotid artery	109 (22.2)	54 (22.0)	55 (22.5)	
M1 of the middle cerebral artery	276 (56.3)	137 (55.9)	139 (56.7)	
Internal carotid artery and M1	105 (21.4)	54 (22.0)	51 (20.8)	
Intra-venous thrombolysis*	178 (36.3)	89 (36.3)	89 (36.3)	1.00
Procedural characteristics				

Onset to arterial puncture time, min (median, IQR)*	310 (179–671)	311 (187–644)	302 (171–680)	0.54
Balloon guided catheter*	126 (25.7)	63 (25.7)	63 (25.7)	1.00
Total attempt number	3 (2–3)	2 (2–3)	3 (2–4)	0.006
Procedure time, min (median, IQR)	44 (27–71)	41 (26–70)	46 (27–72)	0.47

Data expressed as number of cases (%), unless otherwise indicated. * Denotes variables used in PS-matching. ASPECTS, Alberta Stroke Program Early Computed Tomography Score; IQR, interquartile range; NIHSS, National Institutes of Health Stroke Scale.

1.4 Supplementary Table 2

Supplementary Table 2. Comparisons of the same and alternate techniques for successful recanalization at the second attempt by each technique.

Technique	Successful recanalization at the second attempt		Unadjusted		Adjusted*	
			OR 95% CI	P	OR 95% CI	P
ASP at the first attempt	Yes, n=323	No, n=465				
ASP to ASP	218 (38.7)	345 (61.3)	ref	NA	ref	NA
ASP to SR	31 (38.3)	50 (61.7)	1.03 (0.63–1.70)	0.90	0.94 (0.58–1.53)	0.81
ASP to Combined technique	56 (50.0)	56 (50.0)	1.41 (0.93–2.15)	0.11	1.57 (1.04–2.36)	0.03
SR at the first attempt	Yes, n=224	No, n=278				
SR to SR	155 (40.4)	229 (59.6)	ref	NA	NA	NA
SR to ASP	60 (63.8)	34 (36.2)	2.61 (1.63–4.16)	<0.001	2.61 (1.63–4.16)	<0.001
SR to Combined technique	5 (27.8)	13 (72.2)	0.57 (0.20–1.63)	0.29	0.57 (0.20–1.63)	0.29
Combined at the first attempt	Yes, n=357	No, n=486				
Combined to combined technique	320 (41.9)	443 (58.1)	ref	NA	ref	NA

Combined to ASP	26 (59.1)	18 (40.9)	2.00 (1.08–3.71)	0.03	2.31 (1.19–4.50)	0.01
Combined to SR	8 (30.8)	18 (69.2)	0.62 (0.26–1.43)	0.26	0.65 (0.26–1.62)	0.35

ASP, aspiration; CI, confidence interval; OR, odds ratio; SR, stent retriever

*Adjusted by age and atrial fibrillation for ASP at the first attempt; by age, ASPECTS, NIHSS at admission and intravenous thrombolysis for combined technique at the first attempt.