Effectiveness and Safety of Mechanical Thrombectomy in Mild Stroke due to Large-Vessel Occlusion: Insights from the ASSIST Registry

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ABSTRACT

BACKGROUND AND PURPOSE: Mechanical thrombectomy (MT) is effective for acute ischemic stroke, yet its indication in mild stroke remains unclear. This study evaluates the effectiveness and safety of MT in patients with low NIHSS scores and assesses the impact of different MT strategies on procedural success and clinical outcomes.

MATERIALS AND METHODS: Data from the ASSIST Registry were analyzed. We categorized patients with large-vessel occlusion of the anterior circulation into mild (NIHSS ≤5) and moderate-severe (NIHSS >5) stroke groups. Baseline characteristics, procedural parameters, angiographic and imaging outcomes, clinical outcomes, and safety end points were compared. Within the mild stroke subgroup, outcomes were compared between different MT techniques.

RESULTS: Among 1360 patients with large-vessel occlusion, 122 had minor ischemic strokes (9%). Patients with mild stroke had high rates of excellent functional outcomes (mRS 0–1) at 90 days (77.1%) and functional independence (mRS 0–2) (85.7%). Procedural success rates were similar between NIHSS groups, while safety outcomes, except mortality, were comparable. No statistically significant differences were observed in treatment techniques within the mild stroke subgroup. Significant predictors of early neurologic deterioration (END) in patients with mild stroke were the total number of passes (OR, 1.49; 95% CI, 1.01–2.19; $P = .04$) and total procedural time (OR, 1.02; 95% CI, 1.01–1.04; $P = .01$). Patients with END were more likely to have an unfavorable functional outcome (mRS 3–6) at 90 days (89% versus 6%, $P < .001$).

CONCLUSIONS: MT is effective and safe in patients with mild stroke. Procedural success did not vary among MT techniques in mild stroke. The total number of passes predict END, which suggests a causal pathway that requires further exploration.

ABBREVIATIONS: AIS = acute ischemic stroke; BMT = best medical treatment; DA = direct aspiration; END = early neurologic deterioration; eTICI = Expanded Thrombolysis in Cerebral Infarction; EVT = endovascular treatment; IQR = interquartile range; LVO = large-vessel occlusion; MT = mechanical thrombectomy; sICH = symptomatic intracranial hemorrhage; SR = stent retriever

Randomized controlled trials have demonstrated that mechanical thrombectomy (MT) offers superior safety and efficacy over IV rtPA or best medical treatment (BMT) in managing acute ischemic stroke (AIS) associated with large-vessel occlusion (LVO).[1] However, the trials often excluded or underrepresented patients with mild stroke symptoms, leaving uncertainty regarding the effectiveness of endovascular treatment (EVT) in this subgroup. Moreover, the invasive nature and associated risks and costs of MT continue to fuel debates about the appropriate threshold of clinical stroke severity warranting endovascular intervention. Recent studies have addressed this issue, suggesting the potential efficacy of MT in patients with low NIHSS scores.[2]

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SUMMARY

PREVIOUS LITERATURE: Recent studies have addressed the efficacy of MT in acute ischemic stroke with low NIHSS scores, a subgroup historically underrepresented in randomized trials. Prior literature suggests favorable outcomes for early intervention but highlights a lack of robust data guiding treatment decisions for patients with mild symptoms.

KEY FINDINGS: MT demonstrated high rates of excellent functional outcomes (81%) in patients with mild stroke. Predictors of END despite MT were the number of passes and procedural time.

KNOWLEDGE ADVANCEMENT: Our findings indicate that MT is effective in patients with mild stroke; however, the lack of a direct comparison group limits definitive conclusions. The number of passes and total procedural time correlate with END despite MT, underscoring the importance of achieving rapid, successful recanalization.

Various MT techniques are used to achieve successful reperfusion, including the use of a stent retriever (SR) with a balloon guide catheter, a combination of contact aspiration with an SR, and direct aspiration (DA) alone. The prospective, global, multicenter Application Submission System & Interface for Submission Tracking (ASSIST) Registry (https://public.era.nih.gov/assist/public/login.era) aimed to determine which technique is the most effective for first-pass reperfusion during MT.[3] It found that SR Classic, which involves the use of an SR with a balloon guide catheter, or SR Combination, referring to the combination of SR and contact aspiration, was more likely to achieve this goal, with no significant differences observed in clinical outcomes and safety end points.

This secondary analysis of the ASSIST Registry evaluates the efficacy and safety of MT in patients with low NIHSS scores using real-world data. It also explores whether different MT strategies impact procedural success and clinical outcomes within the mild stroke subgroup. Finally, it analyzes factors influencing the occurrence of early neurologic deterioration (END) despite MT and its impact on clinical outcomes in patients with mild stroke.

MATERIALS AND METHODS

Study Design and Participants

We analyzed patients from the ASSIST Registry, a prospective, global, multicenter registry of patients with anterior circulation AIS who have undergone treatment with one of the interventional techniques (SR Classic combining a balloon guide catheter and an SR, SR Combination combining DA with an SR, and DA alone) using Stryker Neurovascular devices for the first pass in treating a target occlusion, with Core Lab–adjudicated outcomes.[3] After we included patients with LVOs (occlusions up to the proximal M2 segment), the patients were categorized into mild (NIHSS $\leq$5) and moderate-severe (NIHSS $>$5) stroke groups. The study population groups were compared on the basis of baseline characteristics, including demographics, medical history and comorbidities, baseline mRS, NIHSS scores at presentation, baseline CT ASPECTS, procedural parameters (including the adjunctive administration of IV tPA, time from last known healthy to groin puncture, site of the target occlusion, and number of passes to treat the target lesion), angiographic and imaging outcomes (including final Expanded Thrombolysis in Cerebral Infarction [eTICI] score and 24-hour CT ASPECTS), clinical outcomes (including the delta NIHSS score from admission to discharge, mRS at 90 days), and complications.

This study was conducted in accordance with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines, and the corresponding STROBE checklist has been provided as Supplemental Data.

Definition of Mild Stroke

In this study, we defined mild stroke as having an NIHSS score of $\leq$5, a threshold consistent with widely accepted standards.[4] Our definition aligns with current stroke guidelines issued by organizations such as the European Stroke Organization, the European Society of Minimally Invasive Neurologic Therapy, and the Society of NeuroInterventional Surgery.[4-6]

End Points

The primary outcome for clinical success was excellent functional outcome (mRS 0–1) at 90 days. Secondary outcomes included the assessment of early response (delta change in NIHSS score at 24 hours from MT or an NIHSS score of 1 or 2 at 5–7 days postprocedure or discharge, whichever came first), and functional independence (mRS 0–2) at 90 days.

The primary outcome for procedural success was first-pass eTICI 2c/3. Secondary outcomes included eTICI 2c/3 after the primary technique and at the end of the procedure.

The safety outcomes included all-cause mortality and stroke-related mortality up to 90 days, symptomatic intracranial hemorrhage (sICH) and END (increase of $\geq$2 points in the total NIHSS score or $\geq$1 point in the motor items of the NIHSS within 7 days of hospital admission), device and/or procedure-related serious adverse events up to 90 days, access site complications up to 48 hours postprocedure, embolization to a new territory, and procedure-related dissection and vasospasm.

Statistics

Categoric data were summarized using frequencies and proportions, with continuous data reported using mean (SD). For non-continuous variables, we provided the median and interquartile range (IQR). Six-level 90-day mRS data were contrasted graphically between patients with low-versus-high NIHSS scores using shift plots. This method was also used to contrast 90-day mRS between subjects with-versus-without neurologic deterioration. Categoric variables were compared between low-versus-high NIHSS groups using the χ^2 or, if necessary, the Fisher exact test. Continuous variables were compared using independent samples t tests or the Wilcoxon rank-sum test when the assumptions for

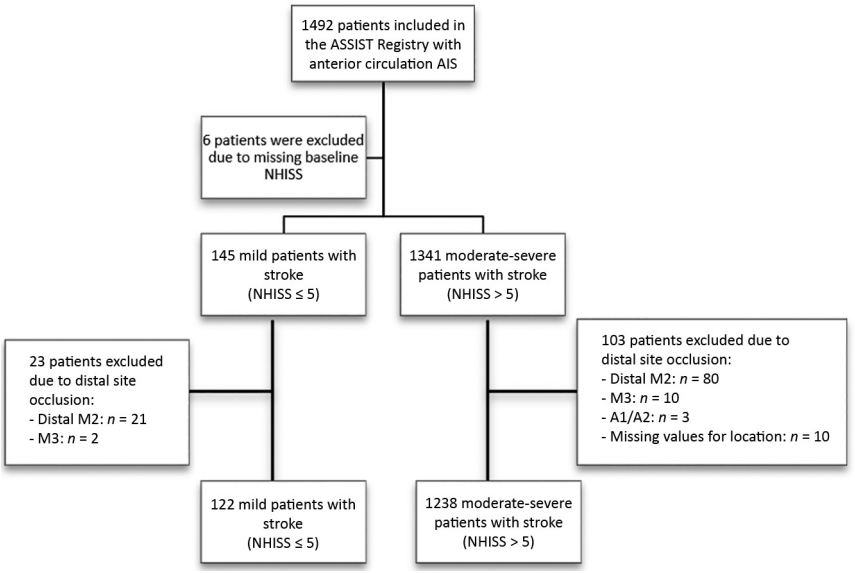

FIG 1. Patient inclusion flow chart.

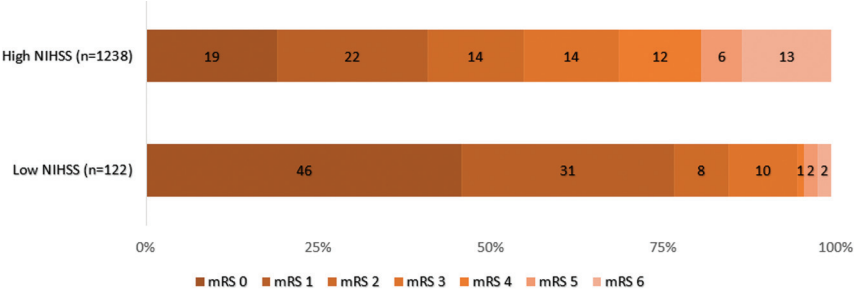

FIG 2. mRS at 90 days from MT for groups with low and high NIHSS scores in subjects with baseline mRS 0–2.

the *t* test were not tenable. Individual predictors of early neurologic deterioration were identified using univariable logistic regression equations. Due to limitations of sample size, it was not possible to combine these covariates into a single multivariable model.

Within the low-NIHSS score group, outcomes were also compared among the SR Classic, SR Combination, and DA technique groups, using the χ^2 or Fisher exact test for categoric outcomes and one-way ANOVA for continuous outcomes. The Kruskal-Wallis test was used in cases in which the assumptions for parametric ANOVA were not satisfied. Wherever possible, all parametric analyses were adjusted to account for the clustering of individual patients within treatment centers.

Two-sided *P* values of .05 were defined as the threshold for statistical significance and were not adjusted for multiple testing due to the hypothesis-generating goal of the study. For ORs, 95% CIs were calculated. Analyses were completed using SAS Version 9.4 (SAS Institute) and R Version 4.3 (http://www.r-project.org/).

RESULTS

Patient and Procedural Characteristics

In the ASSIST Registry, a total of 1492 patients were initially enrolled, with 1360 patients meeting the inclusion criteria (6 patients were excluded because the baseline NIHSS score was not available, 126 patients were excluded due to a distal occlusion site, and 10 patients, due to missing values for the occlusion site). A patient-inclusion flow chart is depicted in Fig 1. Of these, 122 patients (8.9%) presented with minor ischemic stroke, characterized by median NIHSS scores of 3 (IQR, 2–5), while 1238 patients (91.1%) exhibited moderate-to-severe ischemic stroke, with median NIHSS scores of 16 (IQR, 11–20). Baseline characteristics and procedural parameters were found to be similar between the 2 groups (Supplemental Data). The time interval from the last known healthy to groin puncture was significantly longer in the low-NIHSS cohort, and these patients were less likely to receive IV tPA. The baseline CT ASPECTS differed significantly between the 2 groups, with the low NIHSS group showing, on average, 1 point less demarcation compared with the high NIHSS group (8; IQR, 7–9 versus 8; IQR, 7–8, respectively). More distally located occlusions (proximal M2) were more common in the low-score NIHSS group. Additionally, 24-hour CT ASPECTS differed significantly between the 2 groups, with the moderate-to-severe stroke subgroup exhibiting greater demarcation compared with the low scores in the NIHSS group (8; IQR, 7–8 versus 6; IQR, 4–8).

Angiographic and Clinical Efficacy Outcomes

The main results of the angiographic and clinical efficacy outcomes are summarized in the Supplemental Data. The primary outcome for clinical success, defined as an excellent functional outcome (mRS 0–1) at 90 days (among subjects with a baseline mRS 0–1), was reached in 80.6% in the mild-stroke group and in 44.0% in the moderate-to-severe stroke group, reaching a statistical difference ($P < .001$) (Fig 2). Similarly, secondary clinical outcomes also exhibited statistically significant differences: The assessment of early response (change in NIHSS at 24 hours from MT) reached mean values of 1.0 (SD, 3.8) in the mild-stroke group and 7.2 (SD, 6.9) in the moderate-to-severe stroke group ($P < .001$), while functional independence (mRS 0–2 among subjects with baseline mRS 0–2) at 90 days was reached in 85.3% in the mild-stroke group and 55.4% in the moderate-to-severe stroke group ($P < .001$).

Regarding procedural success, the primary outcome, measured by first pass eTICI 2c/3, demonstrated similar rates between the 2 studied populations, with 47.5% in the mild-stroke group

Table 1: Safety outcomes

	All MT Techniques			Patients with Low NIHSS Scores Only[a]			
	Low NIHSS (≤5)	High NIHSS (>5)	*P* Value[b]	SR Classic (*n* = 26)	SR Combo (*n* = 87)	DA (*n* = 32)	*P* Value[c]
All-cause mortality at 90 days (±14 days), % (No.)	4.1 (5/122)	15.1 (187/1238)	<.001	0.0 (0/23)	5.6 (4/71)	3.6 (1/28)	.91
Stroke-related mortality at 90 days (±14 days), % (No.)	1.6 (2/122)	8.9 (110/1238)	.003	0.0 (0/23)	2.8 (2/71)	0.0 (0/28)	.99
Device and/or procedure-related SAEs at 90 days (±14 days), % (No.)	6.6 (8/122)	5.5 (68/1238)	.62	8.7 (2/23)	8.5 (6/71)	0.0 (0/28)	.99
Embolization to new territory during procedure (Core Lab), % (No.)	1.6 (2/122)	0.7 (9/122)	.30	0.0 (0/23)	2.8 (2/71)	0.0 (0/28)	.99
sICH up to 48 hours postprocedure, % (No.)	1.6 (2/122)	6.3 (72/1149)	.63	0.0 (0/23)	2.8 (2/71)	0.0 (0/28)	.99
END, % (No.)	9.5 (11/116)	6.2 (78/1249)	.22	4.6 (1/22)	13.6 (9/66)	3.6 (1/28)	.26
Access site complications up to 48 hours postprocedure, % (No.)	0.8 (1/122)	1.1 (14/1238)	.73	4.4 (1/23)	0.0 (0/71)	0.0 (0/28)	.99
Dissection, % (No.)	0.0 (1/122)	0.1 (1/1232)	.91	0.0 (0/23)	0.0 (0/71)	0.0 (0/28)	NA
Vasospasm, % (No.)	3.3 (4/122)	3.8 (46/1222)	.76	8.7 (2/23)	2.8 (2/71)	0.0 (0/28)	.56

Note:—Combo indicates combination; NA, not applicable; SAEs, Serious Adverse Events; sICH, Symptomatic Intracranial Haemorrhage; END, Early Neurological Deterioration.
[a] Limited to 145 subjects with low NIHSS (≤5).
[b] Rao-Scott chi-square used to account for clustering.
[c] Low NIHSS subset was too sparse to be analysed using adjustment for clustering. A general linear model with binary distribution and logit link function was used for all significance tests.

Table 2: Univariate predictors of END in the low NIHSS group

Variable	OR (95% CI)	*P* Value[a]
Age	1.01 (0.96–1.06)	.76
Male sex	1.22 (0.30–5.07)	.78
IV tPA	3.29 (0.31–35.00)	.32
SR Classic versus DA	1.29 (0.09–18.65)	.85
SR Combo versus DA	4.26 (0.57–32.12)	.16
Total No. of passes	1.49 (1.01–2.19)	.04
TLKW to groin puncture	1.04 (0.96–1.13)	.30
Procedural time	1.02 (1.01–1.04)	.01
Final eTICI ≤2b	2.87 (0.66–12.40)	.15

Note:—TLKW indicates time last known well; Combo, combination.
[a] All models were adjusted to account for the clustering of individual subjects within treatment sites.

and 41.7% in the moderate-to-severe stroke group. Furthermore, the rates of eTICI 2c or greater after the primary technique and at the end of the procedure were comparable between the 2 groups.

No statistical differences were observed among patients with low NIHSS scores regarding the 3 different treatment techniques (Supplemental Data).

Safety Outcomes

The all-cause mortality and stroke-related mortality rates at 90 days were significantly lower in the mild-stroke group, 4.1% and 1.6%, respectively, in contrast to the moderate-severe stroke group, in which they were recorded at 15.1% and 8.9% ($P < .001$ and $P = .003$), respectively. However, no significant differences were observed in the incidence of other safety outcomes (Table 1). Serious adverse events related to the device and/or procedure at 90 days were reported in 6.6% and 5.5% of cases in the mild and moderate-severe stroke groups, respectively. Although not statistically significant, END occurred slightly more frequently in the low NIHSS group (9.5%), compared with 6.3% in the moderate-severe stroke group ($P = .22$).

Within the mild stroke subgroup, no statistically significant differences were observed in safety outcomes concerning the treatment technique (Table 1).

Predictors of END in Patients with Mild Stroke

The total number of passes (OR, 1.49; 95% CI, 1.01–2.19; $P = .04$) and total procedural time (OR, 1.02; 95% CI, 1.01–1.04; $P = .01$) emerged as significant predictors of END according to univariable logistic regression analyses, which were also performed for age, sex, administration of IV lytics, type of MT technique, time from last known well to groin puncture, and successful reperfusion (Table 2). The rate of END was 6.3% in patients who achieved successful reperfusion, compared with 16.2% in subjects who did not achieve a final eTICI ≥ 2C. However, this difference did not reach statistical significance ($P = .12$).

In the mild-stroke group, patients who experienced END were notably less likely to achieve an excellent clinical outcome or functional independence at 90 days (Fig 3), with none of the patients with END achieving an mRS score of 0 or 2, while 11% attained an mRS score of one. Functional independence was achieved in 93.8% of mild-stroke cases without END, compared with only 11% of those with mild stroke and END.

DISCUSSION

These analyses assessed the effectiveness and safety of MT in patients with mild stroke (NIHSS ≤5) and LVO, using data from the ASSIST Registry. Patients with mild stroke in a real-world setting showed high rates of excellent functional outcomes and functional independence at 90 days. Procedural success rates were similar between NIHSS groups, with comparable safety outcomes. Within the subgroup of patients with mild stroke, no significant differences were found in treatment outcomes between the

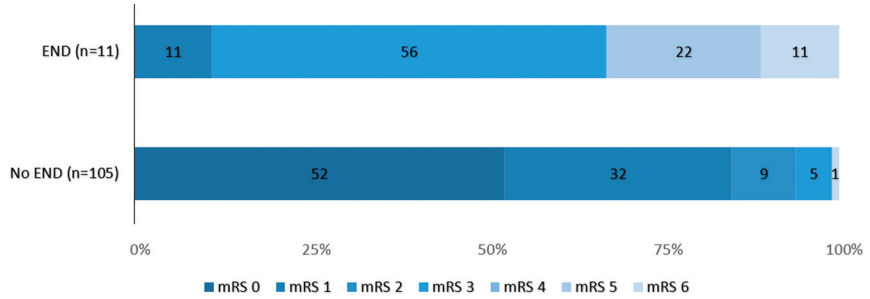

FIG 3. Distribution of mRS at 90 days in subjects with END versus no END for subjects with baseline mRS 0–2.

different treatment techniques. However, the total number of passes and the total procedural time emerged as significant predictors of END despite MT, indicating a pathway for further exploration. Low NIHSS scores in patients who experienced END were significantly more likely to have an unfavorable clinical outcome at 90 days.

Comparison of Patients with Stroke with Low-versus-High NIHSS Scores

Our study identified differences within our patient cohort, particularly in the delay of treatment among those with milder symptoms. This delay may be due to the perception of lower severity and the complex decision-making process caused by the lack of robust data for this subgroup. Current guidelines only cautiously recommend MT in this mild-stroke population, with a Class IIa recommendation based on moderate-quality evidence (B-NR), suggesting its consideration when symptoms are disabling.[5,6] In cases in which symptoms are considered nondebilitating, which is not fully objective and leaves room for interpretation, the decision to proceed with MT may take longer, often resulting in a strategy of monitoring to observe whether symptoms progress before intervening, which occurs in approximately 40% of these patients.[7] However, existing literature suggests that early MT outperforms rescue MT following neurologic deterioration, as evidenced by improved clinical outcomes at 90 days.[2,8] Even a minor increase in NIHSS has been shown to correlate with a significant rise in final infarct volume.[9] The Endovascular Therapy for Low NIHSS Ischemic Strokes (ENDOLOW) trial (NCT04167527) aims to explore the benefits of a prompt treatment by enrolling patients up to 8 hours from onset.

Efficacy of MT in Patients with Low NIHSS Scores

Patients with LVO-AIS and low NIHSS scores managed conservatively often have unfavorable outcomes, with 27%–35% dependent or dead at discharge.[2] However, the functional benefits of recanalization must be carefully considered alongside the added risks of EVT. In our analysis, we found that patients with AIS-LVO and lower NIHSS scores tended to have predominantly favorable clinical outcomes after MT. Ninety-day clinical outcomes, such as excellent functional outcome (mRS 0–1), were observed in 81% of patients with mild stroke, nearly double the rate compared with patients with higher NIHSS scores. While MT has been established as highly beneficial for AIS-LVO and is recommended as a Class I treatment for patients with high NIHSS scores, our results highlight its positive effects even in the mild-stroke population. However, due to the lack of a direct comparison group managed with BMT-only in this study, we cannot draw any definitive conclusions about the clinical benefit of MT. Ongoing prospective studies, such as ENDOLOW and Minor Stroke Therapy Evaluation (MOSTE) (NCT03796468), will further clarify the clinical benefit of EVT in this patient population.

Feasibility and Safety of MT in Patients with Low NIHSS Scores

Previous stroke trials on EVT for AIS-LVO in patients with low NIHSS scores reported successful reperfusion rates ranging from 78% to 97%, with sICH rates varying between 0% and 10%.[10-14] Our study achieved a successful recanalization rate of 68%, using the eTICI 2c or higher criteria, which has better prognostic accuracy for favorable outcomes than the more commonly used eTICI ≥2b threshold.[15] In a recent comparative study, the reported rate of eTICI 2c/3 was 55% for patients with mild stroke.[16] Our primary efficacy end point centered on achieving eTICI 2c/3 at the first pass for treating the target occlusion and was reached in 48% of patients with mild stroke. The first pass effect serves as a potential marker for measuring procedural success efficiency and has been linked to notably higher rates of favorable clinical outcomes.[17] Conversely, more recanalization attempts were associated with the occurrence of END in this study, consequently leading to worse clinical outcomes at 90 days.

In terms of safety, the occurrence of sICH in this study was lower than previously reported, with rates of 1.6% in patients with mild stroke. However, the assessment of hemorrhagic outcomes in patients with low NIHSS scores remains inconclusive. Some studies reported no significant differences in sICH rates between EVT and BMT, while others presented contrasting findings.[2,18] For instance, a 2022 published study evaluating 1083 patients with AIS-LVO with a baseline NIHSS ≤5, of whom 149 (14%) received MT, found that EVT significantly increased the risk of ICH along with not being associated with an excellent clinical outcome (mRS 0–1).[18] Most important, hemorrhagic outcomes seem to correlate with clinical results because studies reporting comparable sICH rates in mild stroke and control groups suggest the efficacy of EVT, while those with divergent sICH rates draw opposite conclusions.[2]

END in Patients with Low NIHSS Scores

Studies have reported that 18%–34.6% of patients with LVO-AIS and low NIHSS scores progress to END.[19,20] Delaying EVT until the clinical manifestation of END generally results in poorer outcomes, suggesting that early MT may be most beneficial for patients likely to progress to END.[2] Our study found that despite undergoing MT, 8% of patients still developed END. A study specifically investigating the occurrence of END after MT in patients with minor strokes using data from the German Stroke Registry (https://www.german-stroke-registry.de/german-stroke-registry) found an incidence as high as 24%.[21] Consistent

with our findings, END was strongly associated with unfavorable long-term functional outcomes, because patients with END were twice as likely to have mRS ≥ 2 at 90 days.[21] The total number of passes was among the predictors of END, as it was in our study, underlining the importance of the first-pass effect. In our series, unsuccessful recanalization was not a predictor of END, whereas successful reperfusion significantly decreased the odds of END in the larger study. Although END occurred more than twice as frequently in patients with mild stroke who did not achieve a final eTICI ≥ 2c compared with those with successful reperfusion (16% versus 6%, $P = .12$), this difference did not reach statistical significance. This lack of significance may reflect a statistical anomaly due to the limited sample size in our study.

END in this study cannot be fully attributed to the incidence of postprocedural sICH, which occurred in <2% of cases. Instead, END may be additionally linked to the increased risk of vessel wall damage with each pass, leading to vascular intimal injury, endothelial dysfunction, vasospasm, and microembolic phenomena. This could explain the observed relationship between the total number of passes and the occurrence of END. Additionally, the total procedure time likely reflects the need for multiple passes, increased wire manipulation, and catheterization challenges in complex cases. These factors can contribute to the observed consequences, such as vasospasm (approximately 3% of cases) and embolization to new territory (1.6% of cases, not accounting microembolisms).

Differences in MT Techniques in Patients with Low NIHSS Scores

The ASSIST Registry demonstrated differences in the efficacy of MT techniques for anterior circulation LVOs, with combined SR techniques achieving higher rates of first-pass eTICI 2c/3 reperfusion compared with DA.[3] Other studies have consistently shown that combined SR techniques have superior technical and functional outcomes compared with DA.[22] However, our study found no significant difference in the technical effectiveness among patients with low NIHSS scores, suggesting that any of these techniques could be justified for use in this subgroup. Despite previous concerns, DA still offers advantages such as rapid application, cost-effectiveness, and a lower incidence of procedure-related adverse events.[23] The SR Combination was associated with more embolization to a new territory during the procedure and a higher incidence of sICH within 48 hours postprocedure, which ultimately correlated with END. This result may be due to the greater manipulation required for combined techniques, increasing the likelihood of dislodging emboli into previously unaffected vascular territories. Additionally, mechanical disruption of the vessel wall and longer procedural times could contribute to an increased risk of sICH.[16] In contrast, vasospasms were more commonly observed when the SR Classic technique was used. This result could be attributed to repeat mechanical interaction with the vessel wall and balloon inflation, both of which may lead to vasospasm. However, none of these observations reached statistical significance. Because the technique was not assigned at random and the small cohort size likely limited statistical power, these results should be interpreted cautiously.

Limitations

The primary limitation of this study is the absence of a control group of patients with mild stroke who received only BMT without undergoing MT. This limitation restricts our ability to directly compare the outcomes of MT with those receiving conservative management in this patient population. As a result, the study cannot conclusively establish the superiority of MT over BMT in patients with mild stroke symptoms. Additionally, because registry data were used, there is the potential for selection bias, because patient enrollment could depend on proceduralists' discretion in choosing Stryker devices or specific patients. However, despite this limitation, the study still provides valuable insight into the effectiveness and safety of MT in patients with mild stroke symptoms. The use of high-quality, real-world data from the ASSIST Registry, coupled with Core Lab–adjudicated outcomes, offers a robust and reliable assessment of MT in this population. These findings are particularly relevant as we await the results of ongoing randomized controlled trials, which are expected to provide more definitive comparative data. In the meantime, this study contributes to the growing body of evidence supporting the consideration of MT as a viable treatment option for patients with mild stroke.

CONCLUSIONS

The findings from this analysis, based on data from the ASSIST Registry, suggest that MT might be efficient and safe in patients with LVO presenting with mild stroke (NIHSS ≤5) because they had high rates of excellent and good functional outcomes. Procedural success rates were similar between mild and moderate-severe stroke groups, with no significant differences observed among the various MT techniques used in the mild-stroke subgroup. However, the total number of passes and the total procedural time emerged as a significant predictor of END despite MT in patients with mild stroke, suggesting a potential pathway for further exploration. These findings contribute to the growing body of evidence supporting the consideration of MT in patients with mild stroke, highlighting the importance of tailored approaches to stroke management based on individual patient characteristics. Further research is needed to better understand the underlying factors influencing procedural success and clinical outcomes in this patient population, ultimately guiding optimized treatment strategies and improving patient care.

Disclosure forms provided by the authors are available with the full text and PDF of this article at www.ajnr.org.

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