P-008

EFFECT OF HISPANIC STATUS IN MECHANICAL THROMBECTOMY OUTCOMES AFTER LARGE VESSEL OCCLUSION ISCHEMIC STROKE: INSIGHTS FROM STAR

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Background and Purpose Epidemiologic studies have shown racial and ethnic minorities to have higher stroke risk and worse outcomes than non-Hispanic Whites. In this cohort study, we analyzed the STAR database, a multi-institutional database of patients who underwent mechanical thrombectomy (MT) for acute large vessel occlusion stroke to determine the relationship between mechanical thrombectomy outcomes and race.

Methods Patients who underwent mechanical thrombectomy between 01/2017-05/2020 were analyzed. Data included baseline characteristics, vascular risk factors, complications, and long-term outcomes. Functional outcomes were assessed with respect to Hispanic status delineated as non-Hispanic White (NHW), non-Hispanic Black (NHB), or Hispanic. Multivariate analysis was performed to identify variables associated with unfavorable outcome or modified Rankin scale <3 at 90-days.

Results Records of 2,115 patients from the registry were analyzed. Median age of Hispanic patients undergoing MT was 60 years (72-84), compared to 63 years (54-74) for NHB, and 71 years (60-80) for NHW patients ($p<0.001$). Hispanic patients had a higher incidence of diabetes (41%; $p<0.001$), and hypertension (82%; $p<0.001$) compared to NHW and NHB patients. Median procedure time was shorter in Hispanics (36mins) compared to NHB (39mins) and NHW (44mins) patients ($p<0.001$). In multivariate analysis, Hispanic patients were less likely to have favorable outcome (OR=0.502; 95% CI 0.263-0.959), controlling for other significant predictors (age, admission NIHSS, onset to groin time, number of attempts, procedure time). Table 2. Multivariate analysis of variables associated with MRS<3 at 90 days.

Conclusions Hispanic patients are less likely to have favorable outcome at 90-days following MT compared to NHW or NHB patients. Further prospective studies are required to validate our findings.

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Abstract P-008 Table 1 Comparison of patients undergoing mechanical thrombectomy by race

Variable	NHW (n=1535)	NHB (n=295)	Hispanic (n=285)	P-value [¶]
Age, median(IQR)	71(60-81)	63(54-74)	60(72-84)	<0.001
Female	751(48.9%)	136(46.1%)	146(51.2%)	0.463
Admission NIHSS, median(IQR)	16(11-21)	16(10-20)	16(11-20)	0.638
ASPECT, median(IQR)	9(8-10)	9(8-10)	10(8-10)	0.061
DM	385(25.1%)	100(33.9%)	117(41.1%)	<0.001
HTN	1114(72.6%)	235(79.7%)	233(81.8%)	<0.001
Afib	600(39.1%)	63(21.4%)	87(30.5%)	<0.001
HLD	685(44.6%)	100(33.9%)	109(38.2%)	<0.001
IV-tPA	799(52.1%)	122(41.4%)	131(46%)	<0.001
Onset to groin, median(IQR)	249(170-419)	235(156-551)	233(140-454)	0.487
LVO location				0.082
ICA	330(21.5%)	68(23.1%)	46(16.1%)	
MCA, M1	758(49.4%)	137(46.4%)	169(59.3%)	
MCA, M2/M3	269(17.5%)	55(18.6%)	49(17.2%)	
ACA	9(0.6%)	0	1(0.4%)	
Vertebral	17(1.1%)	2(0.7%)	3(1.1%)	
Basilar	132(8.6%)	26(8.8%)	13(4.6%)	
PCA	20(1.3%)	7(2.4%)	4(1.4%)	
Thrombectomy technique				0.001
Aspiration first	348(22.6%)	62(21%)	56(19.6%)	
Stent-retriever first	630(41%)	136(46.1%)	137(48.1%)	
Solitaire first	345(22.5%)	24(8.1%)	23(8.1%)	
Other	212(13.8%)	73(24.7%)	69(24.2%)	
Attempts, median(IQR)	2(1-3)	2(1-3)	1(1-3)	0.225
Procedure time, median(IQR, mins)	44(27-72)	39(25-59)	36(23-60)	<0.001
Symptomatic ICH	85(5.5%)	23(7.8%)	24(8.4%)	0.089
90-day mRS, median(IQR)	3(1-5)	4(2-5)	4(2-5)	0.011
MRS<3 at 90-day	599(39%)	104(35.3%)	78(27.4%)	<0.001
90-day mortality	355(23.1%)	45(15.3%)	63(22.1%)	0.011

Abstract P-008 Table 2

Variable	OR(95%CI)	p
Age	0.959(0.948-0.970)	0.000
Admission NIHSS	0.916(0.895-0.938)	0.000
ASPECT	1.135(1.018-1.265)	0.023
Onset to groin	0.999(0.999-1.000)	0.012
Attempts	0.811(0.710-0.925)	0.002
Procedure Time	0.994(0.990-0.999)	0.018
NHW	ref	-
NHB	1.445(0.636-3.286)	0.379
Hispanic*	0.502 (0.263-0.959)	0.037
IV-tPa	0.979(0.706-1.358)	0.901

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P-009

AN ANGLED TIP IS ASSOCIATED WITH IMPROVED TECHNICAL OUTCOMES WHEN USING 0.064–0.074 ASPIRATION CATHETERS: ANALYSIS FROM A MULTICENTER RETROSPECTIVE COHORT

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Background Recent introduction of large bore aspiration catheters have contributed to high reperfusion rates. The alteration of these catheters to have angled tips, which increase clot engagement area by approximately 15%, has been suggested to improve rates of complete clot ingestion, resulting in higher quality thrombectomies. We aimed to evaluate the recanalization efficacy of new generation angled tip aspiration catheters in comparison to commonly used straight tip aspiration catheters in real world data set.

Methods We performed a multicenter retrospective analysis of consecutive acute ischemic stroke patients with M1 occlusion treated within 24 hours from the time of last known well. Patients were divided into two cohorts: those in whom a 0.071 angled tip catheter was the initial device used to attempt reperfusion and those in whom a 0.064–0.074 inch flat tip (non-angled) catheter was the initial device used to attempt reperfusion. The primary outcome was the rate of excellent reperfusion (TICI 2C). Secondary outcomes included the rate of successful reperfusion (TICI2B), use of stent retrievers, and access to successful reperfusion time. All data was self-adjudicated. No outside funding was provided for this analysis.

Results Total of 650 patients with acute M1 occlusion who underwent thrombectomy were identified. Angled tip Zoom 71 catheter was used in 162 patients, while 488 patients were treated with flat tip aspiration catheters (ranging 0.064 to 0.074 inch in inner diameter). The baseline mRS score, admission NIHSS score, the rate of intravenous thrombolytic therapy, symptom onset to hospital arrival, and use of anesthesia were not different between the cohorts. The primary outcome was significantly higher in the angled tip cohort (67% vs 59%, $p=0.03$). There was no difference in the rate of TICI2B reperfusion (96% vs 94%, $p=0.71$). There was a lower rate of stent retriever use (25% vs 44%, $p<0.0001$) in the angled

tip cohort. Access time to successful reperfusion was significantly faster with angled tip catheters (21 vs 29 minutes, $p<0.0001$). Access time to TICI 2B (25 vs 31 minutes, $p=0.03$) and final recanalization (29 vs 35 minutes, $p=0.03$) remained significantly shorter in the angled tip cohort, after adjusting for age, thrombectomy technique, use of secondary aspiration catheter.

Conclusion This multicenter, consecutive real-world experience demonstrates that M1 thrombectomy with an angled tip aspiration catheter is associated with higher rates of TICI 2C or better reperfusion, equal rates of TICI 2B or better reperfusion, and faster time to successful reperfusion.

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P-010

FIRST LINE DIRECT CONTACT ASPIRATION VERSUS STENT-RETRIEVER BASED TECHNIQUES: REAL-WORLD COMPARATIVE THROMBECTOMY OUTCOMES FROM THE NVQI-QOD ACUTE ISCHEMIC STROKE REGISTRY

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Introduction Mechanical thrombectomy is the standard of care treatment for large-vessel acute ischemic stroke and associated with significant improvement in long-term functional outcomes. Early and complete recanalization are paramount in achieving optimal patient outcomes. Though several revascularization techniques have been described, direct contact aspiration and clot removal via stent-retriever remain the foundation of endovascular stroke thrombectomy. Utilizing the NeuroVascular Quality Initiative - Quality Outcomes Database (NVQI-QOD) Acute Ischemic Stroke Registry, we present real-world data on first-line practice for treatment of emergent large vessel occlusions (ELVOs), comparing angiographic and clinical outcomes between direct contact aspiration and stent-retriever mechanical thrombectomy techniques.

Methods Retrospective analysis of the NVQI-QOD registry data was performed. We included patients with ELVOs that underwent mechanical thrombectomy with age > 18 years and presenting NIHSS ≥ 6 . We compared procedural times, recanalization efficacy, and clinical outcomes, including in-hospital mortality and discharge NIHSS.

Results We identified a total of 2381 patients that met inclusion criteria. 998 (41.9%) underwent treatment with direct contact aspiration alone and 1383 (58.1%) underwent treatment utilizing a stent-retriever (with or without local aspiration). There were no significant differences in baseline median NIHSS scores (16 vs. 17, $p = 0.25$) or median ASPECTS scores (9 vs. 9, $p = 0.7$). No significant differences were seen in time last known well to puncture times (282 min vs. 280 min, $p = 0.22$) or recanalization time (323 min vs. 322 min, $p = 0.39$), ED to puncture time (75 min vs. 71 min, $p = 0.25$) or recanalization time (158 min vs. 160 min, $p = 0.55$), or median procedure times between the two groups (23