

arterial access of roughly 40 minutes ($p = 0.01$) for patients having NCCT and CTA performed concurrently. As a result, downstream effects of the procedure demonstrated a reduction in time from presentation to aspiration thrombectomy initiation, from onset to aspiration, and from onset to final angiography (all $p < 0.05$). Notably, these patients demonstrated a higher rate of revascularization to mTICI 2 b-3 ($p = 0.04$).

Conclusion The effects on procedural and clinical outcome of having combined imaging efforts were less apparent in the entire cohort relative to the EVT cohort. These results suggest having concurrent NCCT and CTA imaging improves time from presentation to endovascular therapy, without significant delay to IV rtPA infusion. More patients were observed to achieve mTICI 2 b-3 if both imaging procedures were obtained in conjunction, possibly as a result of the reduction in time to endovascular intervention in this cohort. Further data from a larger sample size will help validate these findings.

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0-004 ANALYSIS OF M2 OCCLUSIONS WITHIN TREVO ACUTE ISCHEMIC STROKE (TRACK) STENT-RETRIEVER THROMBECTOMY REGISTRY

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Background and purpose Several recent randomized clinical trials have demonstrated the safety and efficacy of mechanical thrombectomy with stent retrievers for acute ischemic stroke patients with anterior circulation occlusions. However, these trials have limited enrollment of patients with M2 occlusions. Here, we sought to examine the clinical and angiographic outcomes of patients with M2 occlusions in the Trevo Acute Ischemic Stroke (TRACK) stent-retriever thrombectomy multicenter registry.

Methods Data from the investigator-initiated TRACK Registry (631 consecutive AIS patients, 23 clinical centers) was used to examine and compare demographic, clinical, and angiographic outcomes of patients with M1 versus M2 occlusions who were treated with TREVO as first treatment device.

Results Of the 631 patients enrolled in the TRACK registry, 84 (13.3%) had M2 and 344 (54.5%) had M1 occlusions. Mean age was similar between the M1 and M2 cohorts, 66.5 ± 14.4 and 64.7 ± 3.8 years ($p = 0.34$), respectively. M2 patients had a lower median baseline NIHSS at presentation (14 (IQR 7–9) versus 18 (IQR 14–22), $p \leq 0.0001$). Time of onset to groin puncture (347 ± 237.4 and 361 ± 232.3 , $p = 0.63$) and total procedural time (85.9 ± 49.9 and 78.3 ± 64.5 , $p = 0.4$) was similar between the M1 and M2 cohorts. The number of passes with TREVO device was greater in the M1 cohort (Median, 2 (IQR 1–3) versus 1 (IQR 1–2), $p = 0.01$) as well as use of rescue therapy (20.2% versus 9.8%, $p = 0.03$). Patients with M2 occlusions achieved a higher rate of TICI 3 revascularization after the 1st pass with TREVO device compared to those with M1 occlusions (55.8% versus 40.4%, $p = 0.01$). There was no significant difference in time to revascularization (78.6 ± 50.7 versus 71.6 ± 45.3 , $p = 0.2$), revascularization success (\geq TICI 2 b) (80.5% versus 76.2%, $p = 0.4$), symptomatic intracranial hemorrhage (5.6% versus 6.0%, $p = 0.9$), 90 day modified Rankin Scale score 0–2 (51.0% versus 57.4%, $p = 0.35$), or mortality (16.1% versus 13.2%, $p = 0.6$) between the M1 and M2 groups, respectively.

Conclusions Patients with M2 Occlusions are more likely to achieve complete recanalization from the first pass with Trevo stent retriever device than M1 occlusion. In addition, the M2 cohort had a numerically higher rate of good clinical outcome and less rate of mortality than M1 group. This substudy is limited by lack of a control M2 group without mechanical thrombectomy.

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0-005 INFLUENCE OF BALLOON, CONVENTIONAL, OR DISTAL CATHETERS ON ANGIOGRAPHIC AND TECHNICAL OUTCOMES IN STRATIS

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Introduction/purpose Higher rates of successful revascularization with the least number of passes correlate with improved clinical outcomes in acute stroke endovascular treatment. Different adjunctive technical approaches such as proximal flow arrest using balloon guide catheter (BGC), large bore conventional guide catheter (CGC), or distal large bore catheter (DLBC) with lesional or regional aspiration, are aimed at improving revascularization rates. We present an interim analysis of adjunctive techniques and angiographic outcomes from the STRATIS Registry.

Materials and methods The STRATIS registry is a prospective, multicenter study of patients with large vessel occlusion (LVO) treated with the Solitaire Stentriever ≤ 8 hours of symptoms onset. Technical approaches were grouped based on the first technique implemented: BGC; CGC; and DLBC. Posterior circulation target vessel occlusion and subjects with combined BGC and DLBC approach were excluded. A Core Lab extrapolated the techniques from the procedural reports. Baseline variables were compared between the three groups. The main angiographic and technical outcomes were: 1) First pass effect (FPE) defined as successful recanalization of \geq TICI2b, 2) True FPE defined as TICI 3 after first pass with Solitaire; 3) Number of passes among the cohorts.

Results 413 anterior circulation subjects were included in this interim analysis. The initial technical approach was 60% BGC, 30% DLBC, and 10% CGC. The groups were well balanced in reference to baseline and demographic factors. The rates of FPE were: 62%, 51%, and 45% ($P = 0.0336$), while the true FPE rates were: 44% vs. 37% vs. 28% ($P = 0.0996$) with BGC, DLBC, and CGC, respectively. The mean number of passes were: 1.7 ± 1.09 , 2.1 ± 1.42 , and 2.2 ± 1.76 ($P = 0.0085$), with BGC, DLBC, and CGC, respectively. The rates of successful recanalization of \geq TICI2b after all passes were 91.9% BGC, 88.8% DLBC, and 87.5% CGC ($P = 0.4945$).

Conclusion The STRATIS registry interim analysis demonstrated a higher use of BGC as first approach (60%) compared to previous reports. Consistent with published data, BGC is associated with higher rates of successful revascularization and a trend toward higher rates of complete revascularization from the first pass. Moreover, a lower number of passes is associated with BGC use compared to CGC and DLBC. DLBC with lesional and regional aspiration appears to be superior to CGC only. These results are preliminary, and further analysis with final planned sample size and correlation with central blinded core lab imaging data will provide further evidence on technical and angiographic outcomes with different adjunctive approaches.

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O-006

CORRELATION OF CT AND MRI CLOT CHARACTERISTICS WITH TICI 3 REPERFUSION USING STENT RETRIEVERS IN ACUTE STROKE INTERVENTION

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Introduction Reperfusion to TICI 2 B/3 with stent retrievers has significantly improved when compared with intravenous tPA in several recent randomized controlled trials. However, at least 20% of patients did not achieve this degree of reperfusion. In prior studies, recanalization rates with tPA and early-generation thrombectomy devices (e.g. MERCI) correlated with erythrocyte-rich clots represented by hyperdense MCA (HDMCA) on CT or blooming artifact (BA) on susceptibility-weighted MRI. We hypothesize that clot characteristics, such as clot length, and the presence of HDMCA or BA, may influence the rate of full (TICI 3) reperfusion and the number of passes to achieve reperfusion with stent retrievers.

Methods We retrospectively identified all patients with anterior circulation strokes treated with stent retrievers between January 2015 and March 2016 from our institutional stroke database. All patients underwent a pre-procedural CT or MRI, and revascularization using combined mechanical and aspiration thrombectomy (Solubra) technique. Patient demographics, risk factors, stroke presentation data, and endovascular treatment details (equipment, number of thrombectomy passes, final TICI reperfusion score, and complications) were recorded. Recorded clot characteristics included the presence of HDMCA and BA on CT and MRI, clot length and Hounsfield Unit density on CT or clot signal intensity on susceptibility-weighted MRI compared to corresponding contralateral artery. Primary outcomes of full reperfusion (TICI 3) and corresponding number of passes were correlated with clot characteristics. Univariate and multivariate analyses were performed to identify any significant associations.

Results Sixty-four patients with anterior circulation proximal vessel occlusion were treated using stent retrievers. There were 23 (36%) females with a mean age of 73 ± 14 years (Range 28–92 years). Median NIHSS on presentation was 14 (IQR 10–19). Vessel occlusion was localized to the ICA terminus (10 patients, 16%), M1 (41 patients, 64%) and M2 (13 patients, 20%) segments. Intravenous tPA was administered in 44 patients (69%). TICI 2 B/3 reperfusion was achieved in 57 patients (89%) and TICI 3 in 27 (42%). Among HDMCA patients, TICI 3 rate was 50% (vs 36% without HDMCA, $p = 0.71$); 47% with BA (vs 23% without, $p = 0.27$); and 49% with HDMCA or BA (vs 29% without, $p = 0.13$). No statistical difference was detected between the TICI 3 score and other clot characteristics (clot length, absolute and relative clot density or signal intensity). TICI 3 was significantly associated with single pass revascularization (74% vs 41%, $p = 0.008$), and time from access to revascularization (30 vs 54 minutes, $p = 0.004$). Longer clot length on CT correlated to a greater number of passes (Spearman's rho = 0.7, $p = 0.001$) and longer time from access to revascularization (rho = 0.47, $p = 0.036$).

Conclusion A greater percentage of patients with HMDCA or BA will have full (TICI 3) reperfusion compared to patients without HDMCA or BA, however this study was underpowered to demonstrate these differences were significant. Longer