The availability of advanced large-bore diameter aspiration catheters has improved recanalization rates and time. We report a prospectively collected clinical experience with a simple technique: MAC (Manual Aspiration Contrast Enhancement) as the primary method for vessel recanalization.

Gently contrast injection while the aspiration catheter is advanced to the thrombus and subsequently creating a closed-loop system with the contrast column within the catheter can result in better visualization during the aspiration, thus improving the FPE avoiding clot fragmentation, multiple passes and blind movements of catheter by a single operator. Methods 47 prospectively patients with ELVO and 3 cases of middle vessel occlusion (MVO) at four institutions were included in the study. The MAC technique was utilized in all patients. Procedural and clinical data were analyzed.

Results MAC technique using SOFIA 6 Plus Catheter was successful in achieving first pass effect (FPE) and Thrombolysis in Cerebral Infarction (TICI) 2b-3 recanalizations in 77% of cases. The average time from groin puncture to at least TICI 2b recanalization was 16 min. National Institutes of Health Stroke Scale (NIHSS) score average at onset of 16, and improved to a median NIHSS score at discharge of 5.5. One ICA rupture and two symptomatic intracerebral hemorrhages were recorded peri operatively.

Discussion MAC technique is a simple, fast, safe, and effective method that has reduced the requirements to multiple passes and also avoiding the use of expensive materials to reach the occlusion site. MAC is a replicable approach without additional training requirements.

REFERENCES

Do you have any conflict of interest to declare?: No

P76 FATE OF INCOMPLETE REPERFUSION CAUSED BY MULTIPLE SMALL OCCLUSIONS OR SLOW FLOW IN ETICI 2B REPERFUSION GRADE: INSIGHTS FROM THE ESCAPE-NA1 TRIAL

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Introduction It remains unclear whether incomplete reperfusion caused by multiple small occlusions or slow flow after mechanical thrombectomy (MT) results in infarction on follow-up imaging. 1

Aim We investigated whether small peripheral thrombi or slow flow was associated with infarction on follow-up scan.

Methods Patients from the ESCAPE-NA1 trial with final reperfusion grade eTICI 2b were analysed. Residual/peripheral occlusions were evaluated on the final DSA run. Patients with multiple small non-MT-accessible occlusions (clear marked filling defects representing the peripheral thrombus edge (meniscus sign)) or slow flow (gradual stagnation of flow) or both (mixed pattern) were included. Established infarct within the incomplete reperfusion territory was retrospectively reviewed on baseline non-contrast CT to distinguish slow flow through infarcted brain. New infarct in the incomplete reperfusion territory was assessed on follow-up CT/MR.

Results Of 1105 ESCAPE-NA1 patients, 443 with final eTICI 2b reperfusion were included (40.1%). Of these, 260 had multiple small non-MT-accessible occlusions. Meniscus sign was detected in 26/260 (10%) cases, slow flow in 156/260 (60%) and mixed pattern in 78/260 (30%). 47/260 cases (18.1%) had an established infarct on baseline patients, mean age [± SD] 63 ±15 years. Successful reperfusion (thrombolysis in cerebral infarction score 2b or 3) was achieved in 7 patients (100%).

Carotid access complications included dissection vascular in 1 patient, with second vascular Access (carotid puncture) required. In 3 patients (42.8%) thrombolysis therapy with IV r-TPA were administered during thrombectomy by direct carotid puncture. 3 patients presented neck hematomas but they did not require any subsequent interventions. All patients required angi-seeal vascular closure device for direct carotid Access 6F. We found that the final functional outcome was based on modified Rankin Scale score between 1 and 3 achieve in 5 of 7 patients (71.4%).

Conclusions DCP for emergency MT in patients with AIS-LVO and prohibitive vascular access is safe and effective and is associated with higher recanalization rates.

REFERENCES

Do you have any conflict of interest to declare?: No
imaging. Of the remaining 213 cases, IR resulted in infarction in 114 cases (43.9%); of which, meniscus sign was seen in 16/114 cases (14%) and mixed pattern in 42/114 cases (36.8%).

Conclusion The majority of incomplete reperfusion caused by multiple small occlusions or slow flow was associated with new infarction on follow-up imaging. In half of these cases, distal occlusions (meniscus sign) were detected, which could be potential targets for intra-arterial thrombolysis.

REFERENCES

Do you have any conflict of interest to declare?: No

P77 PREDICTORS OF GOOD CLINICAL OUTCOME AFTER THROMBECTOMY FOR DISTAL MEDIUM VESSEL OCCLUSIONS
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Introduction Good clinical outcome predictors have been emphasized in mechanical thrombectomy (MT)for acute ischemic stroke (AIS) with large vessel occlusion (LVO). MT for distal, medium vessel occlusions (DMVO) is still debated.

Aim of study We sought to assess the factors associated with clinical outcome after MT for DMVO.

Methods We retrospectively analyzed the data of consecutive patients who underwent MT for a primary DMVO in one large academic center and aimed to identify the baseline clinical, imaging and MT factors associated with good clinical outcome (defined as modified Rankin scale [mRS] of 0–2) at 3 months.

Results Between January 2018 and January 2021, 61 patients underwent a MT for an AIS with a primary DMVO. In multivariate analysis, we identified the puncture to recanalization time (ODDS ratio 0.97 [0.93–0.99], p=0.003), and baseline core volume (ODDS ratio 0.84 [0.75–0.94], p=0.003) as negative predictors of good clinical outcome, while final complete (or near-) recanalization (mTICI 2c-3) was a predictor of good outcome (ODDS ratio 14.19 [9.99–101.4], p=0.008).

Conclusion An older age, a longer puncture to recanalization time and a higher baseline core volume were strongly associated with poor clinical outcomes, while successful recanalization (mTICI 2c-3) was associated with better outcomes after MT for DMVO.

REFERENCES

Do you have any conflict of interest to declare?: No

Conflict of Interest Statement Consultancy for Rapid Medical (travel grant only)

P78 HOW FAR IS TOO FAR IN STROKE THROMBECTOMY? FROM XL TO XS VESSEL OCCLUSIONS WITH RADially ADJUSTABLE STENT-RETRIEVERS – TIGERTRIEVER XL AND TIGERTRIEVER 13
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Introduction A New class of Radially adjustable Stent-retrievers, Tigertriever XL and Tigertriever 131, 2(Rapid Medical, Yoqneam, Israel) are respectively CE-Marked for large, and distal, medium vessel occlusions (DMVO). Despite no randomized data support distal vessels recanalization yet.

Aim of study We report our initial experience with the Tigertriever 13 in DMVO and illustrate it with a case where Tigertriever XL and 13 were needed to obtain a complete recanalization.

Methods We performed a retrospective analysis of all consecutive acute ischemic stroke (AIS) patients with primary or secondary DMVO who underwent mechanical thrombectomy with the Tigertriever 13. Patients’ clinical, procedural and angiographic characteristics were reviewed.

Results Between November 2019 and November 2021, 24 DMVO were included (46% female, median age 63 [51–65] years). The overall successful reperfusion rate (mTICI 2b-3) was 88% (21/24) for the dedicated vessel. Follow-up imaging showed a subarachnoid-hemorrhage in 29% of the cases and a parenchymal hematoma in 8% while symptomatic Intracranial hemorrhages did not occurred. At 3 months, 62% of the patients (15/24) had a favorable outcome (mRS 0–2).

Conclusion Mechanical thrombectomy for both primary or secondary DMVO seems feasible and as safe as for LVO. Our initial experience using the Tigertriever13 is of special interest as it shows we can potentially significantly expand AIS population that can benefit from mechanical thrombectomy treatment.

REFERENCES

Do you have any conflict of interest to declare?: Yes

Conflict of Interest Statement Consultancy for Rapid Medical (travel grant only)