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

CAUSES AND IMPACT OF INCOMPLETE REPERFUSION IN ETICI 2B: INSIGHTS FROM THE ESCAPE-NA1 TRIAL

Introduction

The degree of mTICI 2b reperfusion varies from 51%-89% in acute stroke patients treated with mechanical thrombectomy (MT)1. Incomplete reperfusion could be due to either focal occlusion (residual thrombus, fragmented/migrated thrombus) or slow flow2. With advancing endovascular techniques, residual distal/medium vessel occlusions can be targets for MT or intra-arterial thrombolyis3-4.

Aim

We investigated the causes of IR and evaluated whether they could be a target for MT. Secondarily, we assessed the proportion of incomplete reperfusion leading to infarction on follow-up imaging.

Methods

Patients from the ESCAPE-NA1 trial with final mTICI 2b were included. Residual occlusions were evaluated on the final DSA run. The potential targets for MT were assessed as follows: a) single MT-accessible occlusion, b) single MT-accessible occlusion + multiple small non-MT-accessible occlusions, c) single non-MT-accessible occlusion, d) multiple small/non-MT-accessible occlusions or slow flow.

Infarction in the incomplete reperfusion territory was assessed on follow-up CT/MR.

Results

Of 1105 patients in ESCAPE-NA1, 443 (40.1%) were included with a median of 1 MT pass (IQR 1–2). A single MT-accessible occlusion was found in 61/443 cases (13.8%), a single MT-accessible occlusion + multiple small non-MT-accessible occlusions in 86/443 (19.4%), a single non-MT-accessible occlusion in 36/443 (8.1%), and multiple small non-MT-accessible occlusions or slow flow in 260/443 cases (58.7%). Overall, incomplete reperfusion was associated with infarction in 238/443 cases (53.7%), no infarction in 104/443 (23.5%) and impact of incomplete reperfusion was undetermined in 101 cases (22.8%) due to large underlying M1-MCA infarct.

Conclusion

Incomplete reperfusion was most often caused by multiple small non-MT-accessible occlusions and was associated with development of infarct on follow-up imaging in more than half of the patients.

REFERENCES


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

LATE-WINDOW ASPIRATION THRUMECTOMY FOR ANTERIOR ACUTE ISCHEMIC STROKE: SUBSET ANALYSIS FOR COMPLETE STUDY

Introduction

The purpose of this analysis was to evaluate safety and performance of late-window aspiration thrombectomy (> 6 hours onset to puncture) in patients with acute ischemic stroke (AIS) in real-world setting.

Methods

This subset analysis of a global prospective multicenter registry (COMPLETE) captured data from all patients with anterior circulation LVO, pre-stroke mRS of 0–1, and ASPECTS ≥ 6 who underwent late-window aspiration thrombectomy with the Penumbra System. Primary endpoints were successful recanalization (mTICI 2b-3) post-procedure, good functional outcome at 90 days (mRS 0–2), and all-cause mortality at 90 days.

Results

Of 650 patients enrolled across 42 US and European centers, 167 (mean age 68.4, 56.3% female) were included in this analysis. Median NIHSS was 12 (IQR 7–17), median ASPECT Score was 8 (IQR 7–9), and median time from onset to mTICI2b-3 first reached was 11.1 hrs (IQR 8.1–15.3). Post-procedure mTICI 2b-3 rate was 83.2% (139/167), 90-day mRS 0–2 rate was 55.4% (87/157), and 90-day all-cause mortality rate was 14.4% (24/167). Symptomatic ICH occurred in 4.2% (7/167) and procedure-related SAEs in 5.4% (9/167) of patients. No device-related SAE were observed. For the DAWN and DEFUSE-3 medical management arms, the 90-day mRS 0–2 rates were 13% (13/99) and 17% (15/90), respectively, and the 90-day all-cause mortality rates were 18% (18/99) and 26% (23/90), respectively.

Conclusions

Late-window aspiration thrombectomy with Penumbra System is safe and effective for patients with anterior circulation stroke. Our study reports rates of good functional outcome that compare favorably to the DAWN and DEFUSE-3 medical management arms.

REFERENCES


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

Conflict of Interest Statement

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THROMBECTOMY FOR MEDIUM VESSEL OCCLUSIONS: TREATMENT EFFECT OF SUCCESSFUL RECANALIZATION ON LONG TERM FUNCTIONAL OUTCOME

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Introduction Treatment effects of successful recanalization after mechanical thrombectomy (MT) have been evaluated for acute ischemic strokes with large vessel occlusion. However, for medium-vessel occlusions (MeVO) treatment effects of successful recanalization have not been investigated in detail.

Aim of the study
To quantify treatment effects of different degrees of recanalization after MT in MeVO on long term function outcome.

Methods All patients enrolled in the German Stroke Registry from 05/2015 to 12/2019 with MeVO of the middle cerebral artery and availability of the relevant data points were included. The treatment effect of different degrees of recanalization (TICI scores) was analyzed using established binarized outcome metrics (good outcome: 90d mRS<5) and linearized outcome metrics defined as the mRS increase pre-stroke to 90d. Treatment effects were assessed using double robust inverse-probability-weighted regression-adjustment estimators for multivalued treatments.

Results 597 patients fulfilled the inclusion criteria. 97 (16%) patients had TICI<2b with good outcome in 19%, 194 (33%) patients had TICI 2b and 296 (50%) had TICI 3. For both cohorts, percentage of good outcome was 55%. Covariate-controlled treatment effect estimation suggests that TICI 2b recanalization increases probability of good long-term functional outcome from 27% to 58% (31 pp). Pre-stroke to 90d mRS increase was reduced by 1.0 mRS points. Full recanalization with TICI 3 did not further increase probability of good outcome and did not further reduce stroke-related mRS increase.

Conclusion TICI 2b recanalization in MeVO increased probability of good outcome from 27% to 58%, TICI 3 recanalization did not further improve prognosis.

Do you have any conflict of interest to declare?: Yes
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O21 EFFECT OF ANESTHETIC STRATEGY ON PROCEDURAL AND CLINICAL OUTCOMES IN PRIMARY DISTAL MEDIUM-VESSEL OCCLUSION STROKE: RESULTS FROM THE TOPMOST REGISTRY

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Introduction Numerous questions regarding procedural details of thrombectomy for distal medium-vessel occlusions (DMVO) remain unanswered, including the optimal anesthetic strategy.

Aim of study This analysis was performed to assess the effect of anesthetic strategies on outcomes and safety in patients undergoing distal thrombectomy.

Methods All available data of patients treated for primary DMVO of the anterior or posterior cerebral artery (ACA/PCA) including the A2-A3-A4 and P2-P3 segment, respectively, were analyzed from an international, retrospective, multicenter registry. Procedural characteristics were compared by the initial anesthetic strategy defined as general anesthesia (GA), or local anesthesia (LA) with or without conscious sedation (CS). Functional outcome was measured with the mRS. Safety was assessed by the occurrence of mortality and sICH.

Results At total of 233 patients met the inclusion criteria and were treated endovascularly for primary isolated DMVO. Patients were treated in 51.1% with LA ± CS (119) and in 49.9% under GA (114). The median age was 75 (IQR, 64–82) and 50.6% (118) were female. Procedural outcome did not differ significantly between groups of GA (mTICI 2b3: 83.3% (95)) and CS/LA (mTICI 2b3: 86.6% (103); p=0.491). Excellent functional outcome (mRS 0–1) was higher in the CS/LA group (40.2% (27) vs. 63.9% (53); p=0.02) but not significant in multivariable logistic regression analysis. SICH occurred in 2.1% (5).

Conclusion The choice of anesthetic strategies did not affect the procedural or clinical outcome nor the safety of patients undergoing distal thrombectomy for primary isolated DMVO of the ACA and PCA.

REFERENCES

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

O22 MECHANICAL THROMBECTOMY FOR CEREBRAL VENOUS SINUS THROMBOSIS: SINGLE CENTRE EXPERIENCE AND META-ANALYSIS

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