bifurcation and demonstrated branch selection and active compliance. This is a first step towards semi-autonomous navigation for neuroendovascular procedures.

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Abstract 0-018 BRIDGING THROMBOLYSIS DOES NOT INCREASE COMPLICATIONS OF RESCUE INTRACRANIAL STENTING

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Introduction Given the mixed results of recent clinical trials, the role of bridging therapy with intravenous thrombolysis (IVT) in patients undergoing mechanical thrombectomy (MT) remains contested. These results highlight the need to identify subgroup specific strategies to optimize patient selection. Patients undergoing MT for intracranial atherosclerotic disease (ICAD) are more likely to require rescue intracranial stenting and an attendant load of dual antiplatelet drugs. Whether bridging thrombolysis increases hemorrhagic complications in patients requiring rescue intracranial stenting is unclear and may affect frontline thrombolysis decisions in patients with suspected ICAD related large vessel occlusions (LVOs). Here we determine whether bridging therapy modifies procedural and clinical outcomes in patients requiring rescue intracranial stenting after a failed MT.

Methods We performed a retrospective cohort study of the Stroke and Aneurysm Registry (STAR) from January 2015 to December 2021 and identified 8,988 patients who underwent MT, 108 (1.2%) of whom underwent rescue intracranial stenting after failed MT for anterior circulation LVOs. Prospectively defined baseline characteristics and clinical outcomes were compared.

Results 108 patients underwent rescue stenting, 32 (29.6%) of whom received IVT and 76 (70.4%) did not. Patients receiving IVT presented significantly earlier (700 [312–1178] vs 242 [179–333] min, p<0.001), but were otherwise comparable in baseline demographics. A similar number of mechanical thrombectomy passes were employed in both cohorts (3 [2–5] vs 3 [2–5], not significant) with comparable procedural times. Any post-procedural hemorrhage within the first 36 hours was similarly common between both groups (24.6% vs. 31.3%). Symptomatic hemorrhage or type-2 parenchymal hematomas were rare in both groups, with a non-significant trend towards increased events with IVT (2 vs. 4 events, 2.9% vs 12.5%, p=0.078). Good functional outcomes, defined as a modified Rankin score of 0–2 measured 90 days post discharge, were comparable between groups (23.7% vs 37.0%, p=0.209). IVT use did not associate with hemorrhagic complications or good functional outcomes at 90 days in multivariable binary logistic regression analyses.

Conclusions In this international, retrospective cohort study of likely highly-selected patients, IVT exposure did not modify hemorrhagic complications or outcomes in patients requiring intracranial rescue stenting after failed MT. These results are consistent with several randomized clinical trials which did not demonstrate increased hemorrhagic complications in unselected patients undergoing bridging thrombolysis. These data suggest that acute intracranial stenting (with attendant dual antiplatelet loading) may be safe in selected patients exposed to IVT and argue against withholding IVT for patients at higher risk of needing rescue stenting.
INITIAL CLINICAL EXPERIENCE WITH A NOVEL MECHANICAL THROMBECTOMY DEVICE—THE THROMBX RETRIEVER

Background and Purpose The ThrombX Retriever is a novel mechanical thrombectomy device that adjusts the distance between two mesh segments to axially hold thrombus. A post-market study assessed safety and performance in acute ischemic stroke patients with large artery occlusion.

Methods A single-arm prospective multi-center study enrolled patients at 5 European Centers. Patients had a symptomatic large-artery occlusion of the intracranial Internal Carotid or the Middle Cerebral Artery, M1 segment. The primary outcome measure was the modified treatment in cerebral infarction (mTICI) score, on the immediate post-procedure angiogram after up to three device passes. Key secondary outcome measures were the mTICI score after a single pass and functional independence, defined as an mRS score ≤ 2 at 90 days.

Results Thirty patients (16 Females, mean age 72 years), with NIHSS 4–25 (mean 15.5) were treated. Twenty-nine (97%) achieved mTICI 2b-3 within 3 passes, and 24 (80%) were with the first pass (FP). FP mTICI 2c-3 reperfusion was achieved in 19 (63%) cases. Seventeen of 24 (71%) patients treated with a balloon guide and the ThrombX Retriever had a FP mTICI 2c-3 reperfusion. After all interventions, mTICI 2b-3 was seen in 30 (100%) patients. Twenty-one of the 29 (73%) patients with 90-day follow-up were functionally independent (mRS≤2). No device-related serious adverse events were observed.

Conclusion This preliminary study suggests the ThrombX Retriever is safe and has a high rate of substantial reperfusion. A larger prospective trial to assess the device effectiveness is planned.

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