UNDERLYING INTRACRANIAL ATHEROSCLEROTIC DISEASE IS ASSOCIATED WITH WORSE OUTCOMES IN ACUTE LARGE VESSEL OCCLUSION UNDERGOING ENDOVASCULAR THERAPY

Introduction/Purpose Acute large vessel occlusion (LVO) can be secondary to thromboembolism or underlying intracranial atherosclerotic disease (ICAD). Data on the management of LVO due to underlying ICAD are scarce. We hypothesized that patients with ICAD would have worse clinical outcomes following mechanical thrombectomy (MT) than those without ICAD.

Materials and Methods We performed a retrospective analysis of consecutive patients who underwent MT for LVO in a large academic comprehensive stroke center between January 2018 and November 2021. Presence of underlying ICAD at the site of LVO was determined by the treating interventionalist. We compared outcomes including in-hospital mortality, 90-day mortality, and 90-day modified Rankin Scale (mRS) scores between those with and without underlying ICAD, both unadjusted and adjusting for relevant covariates using logistic regression.

Results Among 245 patients (mean ± SD) age 67.1 ± 15.8 years; 58.8% female; 81.2% black, median NIHSS score 16, diabetes and dyslipidemia were more common in those with ICAD (60.0% vs. 40.0%, p=0.015 and 31.1% vs. 14.5%, p=0.008, respectively). Intravenous thrombolysis was provided less often (22.2% vs. 35.5%, p=0.087) in those with ICAD. In terms of outcomes, TICI 2b or higher was achieved in 77.8% of ICAD compared with 93.0% of non-ICAD patients (p=0.002). In-hospital and 90-day mortality were more common (33.3% vs. 16.0%, p=0.008 and 48.9% vs. 26.5%, p=0.003, respectively) and favorable functional outcome (mRS 0 to 2) at 90 days was less common (8.9% vs. 33.0%, p=0.001) in the ICAD group. Adjusting for baseline risk factors and use of intravenous thrombolitics, underlying ICAD was independently associated with in-hospital mortality (OR 2.8, 95% CI 1.2–6.5, p=0.013), 90-day mortality (OR 2.7, 95% CI 1.2–5.9, p=0.012), and mRS 0 to 2 at 90 days (OR 0.22, 95% CI 0.07–0.69, p=0.009).

Conclusion Underlying ICAD is associated with a 2.7-fold increase in the odds of mortality and a 4.5-fold (1/0.22) increase in unfavorable functional outcome at 90 days in patients with LVO undergoing traditional MT. Further research is warranted to understand factors associated with poor outcomes and investigate alternative interventional approaches and medical management in this high-risk population.


P-032

ACUTE LARGE VESSEL OCCLUSION UNDERGOING MECHANICAL THROMBECTOMY VS. INTRAVENOUS ALTEPLASE: RAPID OUTCOME DATA FROM THE SMART-2 REGISTRY

Introduction/Purpose Acute large vessel occlusion (LVO) can be secondary to thromboembolism or underlying intracranial atherosclerotic disease (ICAD). Data on the management of LVO due to underlying ICAD are scarce. We hypothesized that patients with ICAD would have worse clinical outcomes following mechanical thrombectomy (MT) than those without ICAD.

Materials and Methods We performed a retrospective analysis of consecutive patients who underwent MT for LVO in a large academic comprehensive stroke center between January 2018 and November 2021. Presence of underlying ICAD at the site of LVO was determined by the treating interventionalist. We compared outcomes including in-hospital mortality, 90-day mortality, and 90-day modified Rankin Scale (mRS) scores between those with and without underlying ICAD, both unadjusted and adjusting for relevant covariates using logistic regression.

Results Among 245 patients (mean ± SD) age 67.1 ± 15.8 years; 58.8% female; 81.2% black, median NIHSS score 16, diabetes and dyslipidemia were more common in those with ICAD (60.0% vs. 40.0%, p=0.015 and 31.1% vs. 14.5%, p=0.008, respectively). Intravenous thrombolysis was provided less often (22.2% vs. 35.5%, p=0.087) in those with ICAD. In terms of outcomes, TICI 2b or higher was achieved in 77.8% of ICAD compared with 93.0% of non-ICAD patients (p=0.002). In-hospital and 90-day mortality were more common (33.3% vs. 16.0%, p=0.008 and 48.9% vs. 26.5%, p=0.003, respectively) and favorable functional outcome (mRS 0 to 2) at 90 days was less common (8.9% vs. 33.0%, p=0.001) in the ICAD group. Adjusting for baseline risk factors and use of intravenous thrombolitics, underlying ICAD was independently associated with in-hospital mortality (OR 2.8, 95% CI 1.2–6.5, p=0.013), 90-day mortality (OR 2.7, 95% CI 1.2–5.9, p=0.012), and mRS 0 to 2 at 90 days (OR 0.22, 95% CI 0.07–0.69, p=0.009).

Conclusion Underlying ICAD is associated with a 2.7-fold increase in the odds of mortality and a 4.5-fold (1/0.22) increase in unfavorable functional outcome at 90 days in patients with LVO undergoing traditional MT. Further research is warranted to understand factors associated with poor outcomes and investigate alternative interventional approaches and medical management in this high-risk population.