Direct mechanical thrombectomy with or without bridging thrombolysis in patients with acute ischemic stroke: a systematic review and meta-analysis of randomized trials

R Morsi  
Department of Neurology, University of Chicago, Chicago, IL

J Carrión-Penagos  
Department of Neurology, University of Chicago, Chicago, IL

H Desai  
Department of Neurology, University of Chicago, Chicago, IL

E Tannous  
Department of Medicine, Vanderbilt University Medical Center, Nashville, TN

S Kothari  
Department of Neurology, University of Chicago, Chicago, IL

See next page for additional authors

Follow this and additional works at: https://red.library.usd.edu/ul-fp

Recommended Citation

This Article is brought to you for free and open access by the University Libraries at USD RED. It has been accepted for inclusion in Faculty Publications by an authorized administrator of USD RED. For more information, please contact dloftus@usd.edu.
outcomes. However, without complete ingestion of the clot, much of it remains outside of the catheter and can be a source of distal emboli. Super Large Bore Aspiration (SLBA) has shown high rates of complete clot ingestion. We report the initial clinical feasibility, safety, and efficacy of this novel SLBA-insert combination. Super Large-bore Ingestion of Clot (SLIC technique) for stroke. SLIC entails a triaxial assembly of an 8 Fr 0.106” Base Camp catheter, 0.088” catheter extender (HiPoint) and an insert catheter (Tenzing 8), that completely consumes the inner diameter of the 0.088” SLBA catheter. The HiPoint catheter is delivered over the Tenzing 8 to the face of the embolus, which is withdrawn, while aspirating through the Base Camp and HiPoint catheters as a single assembly.

Materials and Methods Retrospective review of three comprehensive stroke center databases between February 2021 and January 2022 and identification of patients treated using the SLIC technique. Data collection and analysis was performed under an Institutional Review Board approved protocol. Patient selection for endovascular treatment was based on advanced imaging with non-contrast head CT, CT angiography and/or CT perfusion. Patients included in this series were found to have a large cerebral vessel occlusion with viable ischemic penumbra (6–24 hours) in the vascular territory supplied by the occluded target artery. Clinical and procedural data of the group of patients undergoing SLIC thrombectomy were extracted.

Results Thirty-three patients with large vessel occlusion were treated with SLIC. Mean patient age was 70 years (range 30–91 years) and 17 patients were male (51.5%). The median presenting NIHSS was 21 (range 1–34) and median ASPECTS score was 8 (range 5–10). Successful delivery of the 0.088” catheter to the site of the occlusion was achieved in all cases. Successful revascularization defined as mTICI≥2B was seen in 100% using a single pass in most of the cases (82%). Final mTICI≥2C was achieved in 94.1% of patients, with 73.5% mTICI3 recanalization. The rate of first-pass effect in achieving excellent reperfusion defined as mTICI≥2C was seen in 70.5% of cases. There were no adverse events or post-procedural symptomatic intracranial hemorrhages.

Conclusion Our initial experience with the SLIC technique resulted in achieving first-pass effect (mTICI≥2C) in 70.5%. Navigation of the SLBA catheter extender over the Tenzing insert was successful and safe in this early experience.

Disclosures F. Massari: None. G. Dabus: 2; C; Medtronic, CereVasc, Penumbra, Stryker, InNeuroCo, Route 92. G. Cortez: None. J. Singh: None. A. Kuhn: None. V. Naragum: None. V. Anagnostakou: None. R. Hanel: 1; C; NIH, Interline Endowment, Microvention, Stryker and CNX. 2; C; Medtronic, Balt, Stryker, Q’Ape medical, Codman Neuro (J&J), CereVasc, Microvention, Imperative Care, Phenox and Rapid Medical. M. Gounis: 1; C; the National Institutes of Health (NIH), the United States – Israel Binational Science Foundation, Anaconda, ApicBio, Arsenal Medical, Axovant, Balt, CereVasc, Ceretrieve, CereVasc LLC, Cook Medical, 2; C; Alembic LLC, Astrocyte Pharmaceuticals, Bendit Technologies, CereVoscus, Imperative Care, Jacob’s Institute, Medtronic Neurovascular, Mivi Neurosciences, phenox GmbH, Q’Ape, Route 92 Medical, Stryker. 4; C; Imperative Care, InNeuroCo, Galaxy Therapeutics and Neurogami. A. Puris: 1; C; NIH, Microvention, CereVoscus, Medtronic Neurovascular and Stryker Neurovascular. 2; C; for Medtronic Neurovascular, Stryker NeurovascularBalt, Q’Ape Medical, CereVoscus, Microvention, Imperative Care, Agile, Merit, CereVasc and Arsenal Medical. 4; C; InNeuroCo, Agile, Perfuze, Galaxy and NTI.
EFFECT OF INTRAVENOUS THROMBOLYSIS BEFORE ENDOVASCULAR THERAPY ON OUTCOMES IN PATIENTS WITH LARGE CORE INFARCT: INSIGHT FROM THE STAR REGISTRY

Introduction/Purpose
This is a retrospective analysis of the Stroke Thrombolysis in Cerebral Infarction (STECI) study, which is a registry of patients with large vessel occlusion treated with intravenous thrombolysis and mechanical thrombectomy. The objective of this study was to compare the outcomes of patients who received intravenous thrombolysis (IVT) prior to mechanical thrombectomy (MT) with those who did not, in order to determine the impact of IVT on patient outcomes.

Methods
Patients were divided into two groups based on pretreatment intravenous thrombolysis (IVT+) or no IVT (IVT-). The association between IVT and favorable outcome (mRS 0–2) or significant intracranial hemorrhage (sICH or PH2) was assessed using a logistic regression model adjusted for age, sex, admission NIHSS, onset to groin time, and pre-stroke mRS.

Results
Of 6151 patients enrolled in the STAR registry during the study period, 398 patients (mean age 67.5 ± 14 years, median NIHSS 19, median onset to groin 321 minutes) met our inclusion criteria and were included in the final analysis. Favorable outcome was achieved in 27.3%, and 17.4% in the IVT+ and IVT- groups (p=0.027), respectively. Significant ICH (sICH or PH2) occurred in 16.9% and 13.1% in the IVT+ and IVT- groups (p=0.26), respectively. In an adjusted logistic regression model, IVT was not associated with favorable outcomes (OR, 1.78; 95% CI 0.91–3.48) or significant hemorrhage (OR, 1.36; 95% CI 0.71–2.59).

Conclusion
Patients with large core infarct treated with intravenous thrombolysis and mechanical thrombectomy had comparable outcomes to those treated with mechanical thrombectomy alone.

Disclosures
M. Anadani: None. A. Shaban: None. S. Al Kasab: None. R. Chalhoub: None. I. Maier: None. M. Psychogios: None. A. Alaweih: None. S. Wolfe: None. A. Author: None. T. Dumont: None. P. Kan: None. I. De Leacy: None. I. Osbun: None. J. Kim: None. R. De Leacy: None. J. Osbun: None. A. Rai: None. P. Jabbour: None. M. Park: None. J. Mascielli: None. M. Levitt: None. R. Chalhoub: None. S. Yoshimura: None. C. Matouk: None. R. Williamson: B. Gory: M. Mokin: F. Frigata: D. Romano: S. Chowdry: M. Moss: D. Behme: S. Spittalet: S. Samaniego: Neurosurgery, Medical University of South Carolina, Charleston, SC; Neurology, University of Iowa, Iowa City, IA; Department of Neurology, University Medicine Göttingen, Göttingen, Germany; Neurology, University Hospital Basel, Basel, Switzerland; Neurosurgery, Emory University Hospital, Atlanta, GA; Neurosurgery, Wake Forest School of Medicine, Winston-Salem, NC; Neurosurgery, University of Tennessee Health Science Center, Memphis, TN; Neurology, University of Arizona Health Sciences, Tucson, AZ; Neurology, Baylor School of Medicine, Houston, TX; Neurology, Chonn National University Hospital, Gwangju, Korea, Republic of; Neurosurgery, Mount Sinai Health System, New York, NY; Neurosurgery, Washington University of School of Medicine, St. Louis, MO; Neurosurgery, West Virginia School of Medicine, Morgantown, WV; Neurosurgery, Thomas Jefferson University Hospitals, Philadelphia, PA; Neurosurgery, University of Virginia, Charlottesville, Va; Neurosurgery, University of Texas Health Science Center at San Antonio, San Antonio, TX; Neurosurgery, University of Washington, Seattle, WA; Neurosurgery, University of Florida, Gainesville, FL; Cerebrovascular and Endovascular Neurosurgery, Hospital Juan Fernandez, Buenos Aires, Argentina, Argentina, Argentina; Neurosurgery, Hyogo College of Medicine, Hyogo, Japan; Neurosurgery, Yale School of Medicine, New Haven, CT; Neurosurgery, Allegheny Health Network, Pittsburgh, PA; Diagnostic and Therapeutic Neuroradiology, Centre Hospitalier Regional Univesitaire de Nancy, Nancy, France; Neurosurgery, University of South Florida, Tampa, Fl; Neurosurgery, Hospital Sao Jose Centro Hospitalar, Lisbon, Portugal; Neuroscience, Aou S. Giovanni I Dio e Rugi d’Aragona Hospital, Salerno SA, Italy; Neurosurgery, NorthShore University Health System, Evanston, IL; Interventional Neuroradiology, Washington Regional Medical Center, Fayetteville, AR; Neuroradiology, University Hospital Magdeburg, Magdeburg, Germany; Neurology, Indiana University, Bloomington, IN; Neurosurgery, Medical University of South Carolina, Charleston, SC.