

Modifying BACTRAC protocol provides first chance to study local leukocyte populations during stroke

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Expanding standard techniques during mechanical thrombectomy—a procedure that removes a clot from an artery during stroke—allows researchers to reproducibly obtain and study local leukocyte populations during human stroke, according to a study by the University of Kentucky Department of Neurology, released today at the Society of NeuroInterventional Surgery's (SNIS) 17th Annual Meeting.

The study, Changes in Leukocyte Distribution in Intracranial vs. Systemic Blood Collected during Mechanical Thrombectomy, started with the established BACTRAC protocol and modified the tissue collection protocol to isolate lymphocytes for flow cytometry and to bank the thrombus and plasma. The researchers first established the protocol in healthy controls using venous blood samples and then initiated for thrombectomy cases.

These methods can be used to expand our understanding of acute inflammatory mechanisms activated within the infarcted brain. This novel approach may be critical to identifying immunotherapeutic targets that can be delivered either as adjunctive therapies to [mechanical thrombectomy](#), or in the phases of recovery after [stroke](#).

"This modification to the existing BACTRAC protocol provides the opportunity, for the first time, to study changes in local leukocyte populations with flow cytometry in the arteries undergoing [ischemic](#)

[stroke](#) in the [human condition](#)," said co-senior authors of the study Dr. Justin Fraser, Department of Neurosurgery, and Dr. Ann Stowe, Department of Neurology, both at the University of Kentucky. "Efficient processing of lymphocytes with subsequent [flow cytometry](#) analyses will provide important insight into the neuroinflammatory microenvironment of the occlusion during stroke."

Researchers will focus future studies on investigating changes in specific leukocyte populations and how they might relate to patient demographics, patient co-morbidities, infarct volume, and functional recovery. These data will help accelerate translational stroke research to illuminate new approaches for drug discovery and prognosis.

More information: www.snisonline.org/

Provided by Society of NeuroInterventional Surgery

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