CHARLOTTESVILLE, VA (MARCH 31, 2015). Until recently, thrombolytic therapy has been the only proven treatment for acute ischemic stroke. A recent study in the Netherlands, however, found that interventional thrombectomy improved functional outcomes in patients with emergent cranial large-vessel occlusions, even among patients who had already received tissue plasminogen activator (tPA) for thrombolytic therapy. Today the American Association of Neurological Surgeons, the Congress of Neurological Surgeons, and the Joint AANS/CNS Cerebrovascular Section strongly endorse interventional thrombectomy in the treatment of acute ischemic stroke in their article, “MR CLEAN: past the tipping point of clinical equipoise,” by Henry H. Woo et al., published online, ahead of print, in the Journal of Neurosurgery (http://thejns.org/doi/full/10.3171/2015.2.JNS15284).

Five hundred patients with imaging-confirmed occlusion of proximal arteries in the anterior cerebral circulation were enrolled in MR CLEAN (the Multicenter Randomized Clinical Trial of Endovascular Treatment for Acute Ischemic Stroke in the Netherlands) and treated within 6 hours of symptom onset. All patients were given the usual standard of care, which included prompt administration of tPA (alteplase) in 89% of patients. Approximately half of the patients also received interventional thrombectomy, which in 82% was accomplished using retrievable stents. The addition of interventional thrombectomy proved more favorable than usual care alone, with a 13.5% improvement in the absolute rate of functional independence between the two treatment groups. The results of MR CLEAN were reported in the January 1 issue of the New England Journal of Medicine (http://www.nejm.org/doi/full/10.1056/NEJMoa1411587).

Dr. Woo and colleagues describe differences between MR CLEAN and three previous studies that were unable to prove the advantages of interventional thrombectomy for acute ischemic stroke. The earlier studies suffered from lack of imaging confirmation of large-vessel occlusion, use of antiquated interventional technologies, and insufficient statistical power. The authors applaud the achievements of MR CLEAN.

Speaking to the future, Dr. Woo and colleagues point out that work still needs to be done to improve patients’ lives following ischemic stroke. The authors call on neurosurgeons and all health care professions to improve patient care by identifying and triaging patients with emergent large-vessel occlusion with greater accuracy and speed. They point out that these lesions may be more time sensitive than acute myocardial infarction, and first responders and the public should be trained to respond quickly and efficiently.

Disclosure: Dr. Mocco is a consultant for Lazarus Effect, Reverse, Pulsar, Edge Therapeutics, and Medina; holds investments with Blockade Medical and Medina; and serves on the advisory board of Codman Neurovascular. Dr. Arthur is a consultant for Medtronic, Microvention, Penumbra, Johnson & Johnson, and Stryker; and has received support from Sequent and Siemens for non–study-related clinical or research effort. Dr. Woo is a consultant for Microvention Inc., has ownership in Vascular Simulations LLC, and receives royalties from Codman & Shurtleff.

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Founded in 1931 as the Harvey Cushing Society, the American Association of Neurological Surgeons (AANS) is a scientific and educational association with more than 8,300 members worldwide. The AANS is dedicated to advancing the specialty of neurological surgery in order to provide the highest quality of neurosurgical care to the public. All active members of the AANS are certified by the American Board of Neurological Surgery, the Royal College of Physicians and Surgeons (Neurosurgery) of Canada or the Mexican Council of Neurological Surgery, AC. Neurological surgery is the medical specialty concerned with the prevention, diagnosis, treatment and rehabilitation of disorders that affect the entire nervous system including the brain, spinal column, spinal cord, and peripheral nerves. For more information, visit www.AANS.org.