Cardioembolic stroke has a poor prognosis. Oki et al. evaluated the region-dependent efficacy of endovascular therapy (EVT) based on diffusion-weighted imaging-Alberta Stroke Program Early CT Score (DWI-ASPECTS).

This post-hoc analysis of the RELAXED study, which investigated the optimal timing of rivaroxaban to prevent nonvalvular atrial fibrillation (NVAF) recurrence in patients with acute ischemic stroke (AIS), included NVAF patients admitted with AIS or transient ischemic attack in the middle cerebral artery (MCA), with internal carotid artery (ICA), M1, or M2-MCA occlusion. Relationships between DWI-ASPECTS region and functional outcome (modified Rankin Scale [mRS]), mortality, recurrence, and hemorrhagic stroke were compared between patients with and without EVT, and adjusted odds ratios for age, pre-stroke mRS, National Institutes of Health Stroke Scale (NIHSS), ICA occlusion, infarct size, recombinant tissue plasminogen activator (rt-PA) use, and onset-to-hospitalization time were estimated.

EVT patients had significantly lower hemoglobin levels, higher median NIHSS scores, more lentiform nucleus infarcts, ICA or M1-MCA occlusions, treatment with rt-PA, and fewer M3, M5, or M6 infarcts and M2-MCA occlusions than no-EVT patients. EVT patients had shorter onset-to-hospitalization times and more frequent favorable functional outcomes (p=0.007). Mortality, recurrent ischemic stroke, and hemorrhagic infarction were similar in both groups. EVT was associated with significantly better functional outcomes among patients with insular ribbon (p=0.043) and M3 (p=0.0008) infarcts. M3 patients had significantly fewer rt-PA and EVT, and longer onset-to-hospitalization times.

An occlusion in the insular ribbon or M3 region was associated with favorable functional outcomes in patients treated with EVT after cardioembolic stroke [1].

1)
Oki Y, Sakakibara F, Uchida K, Kageyama H, Yasaka M, Toyoda K, Mori E, Hirano T, Hamasaki T, Yamagami H, Nagao T, Uchiyama S, Minematsu K, Yoshimura S; RELAXED study group. ASPECTS-Region-Dependent Functional Outcomes after Endovascular Therapy in Patients with Cardioembolic Stroke. J Stroke Cerebrovasc Dis. 2021 Apr 26;30(7):105814. doi: 10.1016/j.jstrokecerebrovasdis.2021.105814. Epub ahead of print. PMID: 33915390.