Acute basilar artery occlusion

Acute basilar artery occlusion (BAO) is the most devastating form of Posterior circulation stroke (PCI)

Hirai et al. aimed to investigate the impact of baseline infarct area and collateral status (CS), which are imaging predictors of clinical stroke outcome, after endovascular treatment (EVT) in MRI-selected patients with acute basilar artery occlusion (BAO).

Patients with acute BAO who underwent EVT within 24 h after stroke from December 2013 to February 2021 were included in a retrospective, multicenter, observational study. The baseline infarct area was evaluated by the posterior circulation of Acute Stroke Prognosis Early Computed Tomography Score (PC-ASPECTS) using Diffusion-weighted magnetic resonance imaging (DWI), and CS was assessed by measuring the computed tomography angiography of the basilar artery (BATMAN) score and the posterior circulation collateral score (PC-CS) using magnetic resonance angiography (MRA). A Good outcome was defined as a modified Rankin scale score ≤ 3 at 3 months. For each imaging predictor, a multivariate logistic regression analysis was performed to evaluate its impact on good outcomes.

A total of 86 patients were analyzed, and 37 (43.0%) had a good outcome. The latter showed significantly higher pc-ASPECTS than those without good outcomes. In multivariate analyses, a pc-ASPECTS ≥ 7 was significantly associated with good outcomes (OR, 2.98 [95% CI, 1.10-8.13], P = 0.032), while PC-CS ≥ 4 (OR, 2.49 [95% CI, 0.92-6.74], P = 0.073) and BATMAN score ≥ 5 (OR, 1.51 [95% CI, 0.58-3.98], P = 0.401) were not.

In MRI-selected patients with acute basilar artery occlusion (BAO), pc-ASPECTS on DWI was an independent predictor of clinical outcomes after EVT, while the MRA-based CS assessments were not [1].

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Hirai S, Hirakawa A, Fujita K, Ishiwada T, Sasaki M, Yoshimura M, Shigeta K, Sato Y, Yamada K, Ishikawa M, Sagawa H, Aoyama J, Fujii S, Ishii Y, Sawada K, Obata Y, Karakama J, Hara M, Kawano Y, Nemoto S, Sumita K. Imaging predictors of clinical outcomes after endovascular treatment in MRI-selected patients with acute basilar artery occlusion. Clin Neurol Neurosurg. 2023 Jun 7;231:107824. doi: 10.1016/j.clineuro.2023.107824. Epub ahead of print. PMID: 37320887.