Cervical magnetic resonance angiography

In the endovascular treatment of acute cerebral large-vessel occlusion, cervical magnetic resonance angiography (MRA) is a useful modality for assessing the access route. However, we sometimes encounter cases in which not only the internal carotid artery (ICA), but also the common carotid artery (CCA) is poorly visualized, leading to hesitation over which devices and techniques to choose for revascularization. We retrospectively evaluated such cases, focusing on image findings and treatment results.

Data from 96 patients who underwent acute endovascular revascularization from January 2016 to December 2019 were analyzed. We extracted patients with poor CCA visualization on cervical MRA from 35 cases with ICA occlusion and examined angiographic findings, treatment methods, and outcomes.

Results: Poor visualization of the CCA in cervical MRA was observed in 8 cases. All cases displayed atrial fibrillation or sick sinus syndrome. Angiographic findings showed true CCA occlusion in 2 patients and ICA occlusion in 6 patients. Reasons for the inability to visualize the CCA on cervical MRA were speculated to be stenosis of the external carotid artery (ECA), presence of embolism in the ECA, or severe heart failure. In cases of true CCA occlusion, thrombus was aspirated using the balloon guide catheter and good recanalization was obtained. Seven of 8 patients displayed favorable recanalization, with a good prognosis after 90 days in 5 patients.

Poor CCA visualization on cervical MRA does not necessarily represent true CCA occlusion. Aspiration of thrombus from a balloon guide catheter is effective for true CCA occlusion ¹⁾.

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Asano H, Shimizu T, Aihara M, Yamaguchi R, Aishima K, Yoshimoto Y. Acute Endovascular Revascularization for Patients with Common Carotid Artery Occlusion Apparent on Cervical Magnetic Resonance Angiography. J Stroke Cerebrovasc Dis. 2021 Jan 27;30(4):105626. doi: 10.1016/j.jstrokecerebrovasdis.2021.105626. Epub ahead of print. PMID: 33516069.

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