High-resolution MR technique can distinguish moyamoya disease from atherosclerotic occlusion

Moyamoya disease (MMD) is an idiopathic progressive narrowing of distal internal carotid arteries and secondary development of small collaterals. The distinction between MMD and intracranial atherosclerosis is not easy when a patient has concomitant vascular risk factors. We attempted to differentiate the 2 disease conditions by applying high-resolution plaque MRI in the occluded segment. High-resolution MRI of MMD disclosed blunted obliteration of the vessel lumen without eccentric plaque, and black-blood image delineated the occlusion site with
homogeneous material and multiple spring-like vascular structures (figure, A). Intracranial atherosclerosis showed eccentric plaque with heterogeneous signals and enhancement (figure, B).

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Author contributions: Jeong-Min Kim contributed to the writing of the manuscript and analysis and interpretation of data. Keun-Hwa Jung contributed to acquisition of data and critical revision of the manuscript. Chul-Ho Sohn contributed to acquisition of data and critical revision of the manuscript for important intellectual content including the brain MRI technique. Jaeseok Park contributed to the development of the brain MRI sequence. Jangsup Moon contributed to acquisition and analysis of data. Moon Hee Han contributed to critical revision of the manuscript for intellectual content. Jae-Kyu Roh contributed to concept and design of the study and critical revision of the manuscript for important intellectual content.

Study funding: Supported by the Original Technology Research Program for Brain Science through the National Research Foundation of Korea, funded by the Ministry of Education, Science, and Technology (2012-0005825).

Disclosure: The authors report no disclosures relevant to the manuscript. Go to Neurology.org for full disclosures.

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Neurology 2013;80;775-776
DOI 10.1212/WNL.0b013e3182825162

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