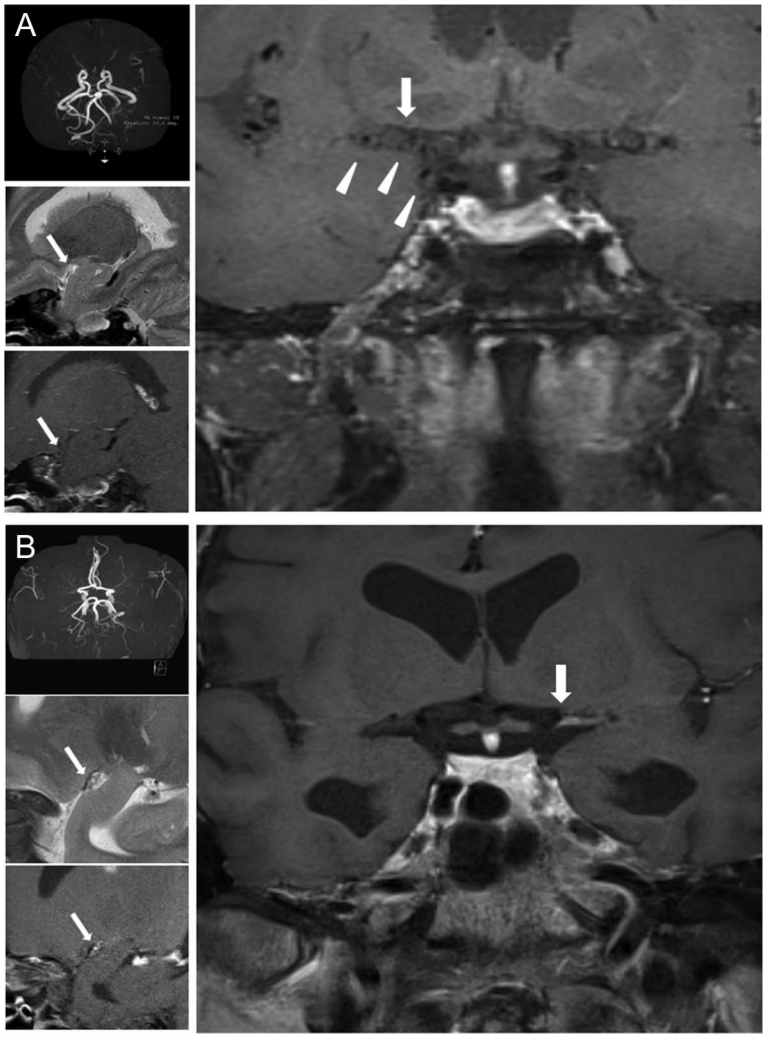
High-resolution MR technique can distinguish moyamoya disease from atherosclerotic occlusion

Figure MRI



High-resolution MRI findings of intracranial internal carotid artery (ICA) occlusion. Patient A with moyamoya disease had blunted distal ICA with homogeneous signal material and no enhancement (arrow). Multiple round vascular structures suggesting remnant vessels or developing collaterals were detected in black-blood image (arrowheads) (A). Patient B had a heterogeneous eccentric lesion along the vessel wall with enhancement, suggesting active atherosclerosis involving the intracranial vessel (B).

Moyamoya disease (MMD) is an idiopathic progressive narrowing of distal internal carotid arteries and secondary development of small collaterals.[1] 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.[2] 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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