Dural arteriovenous fistula in a case of dementia with bithalamic MR lesions

Figure T2-weighted MRI, right external carotid arteriogram, and follow-up MRI

(A) T2-weighted MRI of brain shows hyperintense lesions in bilateral thalami. (B) Right external carotid arteriogram shows a fistula from the middle meningeal artery toward the deep cerebral vein (solid arrow), and the great vein of Galen (open arrow). (C) Follow-up MRI shows normal appearance of the thalami 10 months after successful treatment with transarterial embolization.

T2-weighted MRI of the brain revealed bithalamic hyperintense lesions (figure, A) in a 73-year-old man with a 5-month history of dementia. Although the tentative diagnosis was metabolic encephalopathy or glial tumors, we finally suspected dural arteriovenous fistula (AVF)¹ based on bithalamic vasodilatation on enhanced MRI. Cerebral angiography demonstrated a dural AVF with retrograde flow through the vein of Galen (figure, B). After transarterial embolization, dementia improved accompanied by disappearance of bithalamic abnormal intensities (figure, C). Hypertension of the vein of Galen resulting from a dural AVF should be considered in dementia cases with characteristic bithalamic lesions.²

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