

LETTER TO THE EDITOR**TO THE EDITOR****Numerous Hyperintense Cerebral White Matter Lesions on Diffusion-Weighted Imaging in Intravascular Lymphoma**

Keywords: Cerebral white matter, diffusion-weighted MRI (DWI), intravascular lymphoma (IVL)

A 71-year-old man was admitted to our hospital with a 3-month history of progressive gait disturbance. His past medical history included hypertension, diabetes mellitus, renal cell carcinoma, chronic kidney disease (on hemodialysis), and sleep apnea syndrome (on continuous positive airway pressure).

On admission, neurological examination demonstrated left hemiparesis. Diffusion-weighted MRI (DWI) showed numerous small hyperintense lesions mainly in the bilateral cerebral white matter (Figure 1). The apparent diffusion coefficient values of the lesions were almost equal to those of the surrounding parenchyma and were slightly decreased in some of the lesions (Figure 1).

Blood tests 10 days after admission demonstrated a soluble interleukin 2 receptor (sIL-2R) level of 1929 U/mL (reference range: 145–519 U/mL). A lumbar puncture yielded watery clear cerebrospinal fluid (CSF). CSF examination showed a cell count of 7/mm³, total protein of 75 mg/dL (reference range: 8–43 mg/dL), glucose of 83 mg/dL, and sIL-2R of 2070 U/mL (reference range: <85). Random skin biopsy 12 days after admission established a diagnosis of large B-cell intravascular lymphoma (IVL).

Numerous hyperintense cerebral white matter lesions on DWI are rare in a clinical setting, but have been reported in patients with IVL.^{1,2} Compared with the previous patients,^{1,2} we could suspect IVL at very early stages based on this characteristic finding. Clinicians should be aware of IVL in patients showing progressive neurological deficits and numerous hyperintense cerebral white matter lesions on DWI.

CONFLICT OF INTEREST

The authors declare no conflicts of interest associated with this manuscript.

STATEMENT OF AUTHORSHIP

MS analyzed the data. ZK designed and conceptualized study; major role in the acquisition of data; interpreted the data; drafted the manuscript for intellectual content. SI revised the manuscript for intellectual content. HT revised the manuscript for intellectual content.

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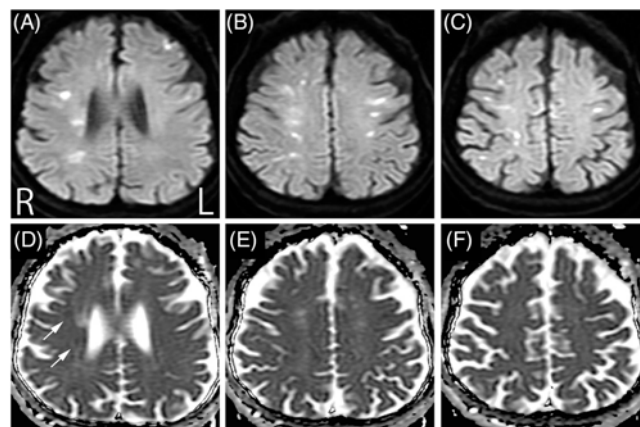



Figure 1: Diffusion-weighted MRI (DWI) (A-C) demonstrated numerous hyperintense lesions mainly in the bilateral cerebral white matter. In apparent diffusion coefficient (ADC) maps (D-F), the ADC values of the lesions were almost equal to those of the surrounding parenchyma and were slightly decreased in some of the lesions (D, arrows).

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REFERENCES

1. Kageyama T, Yamanaka H, Nakamura F, Suenaga T. Persistent lesion hyperintensity on brain diffusion-weighted MRI is an early sign of intravascular lymphoma. *BMJ Case Rep.* 2017;2017:bcr2017220099.
2. Kobayashi Z, Ishihara S, Tomimitsu H, et al. Persisting subacute infarct pattern as early MRI feature of brain intravascular lymphoma. *Neurol Clin Neurosci.* 2019;7:34–36.