RESIDENT & FELLOW SECTION

Teaching NeuroImages: Parkinsonism Presenting With Watershed Pattern Lesions

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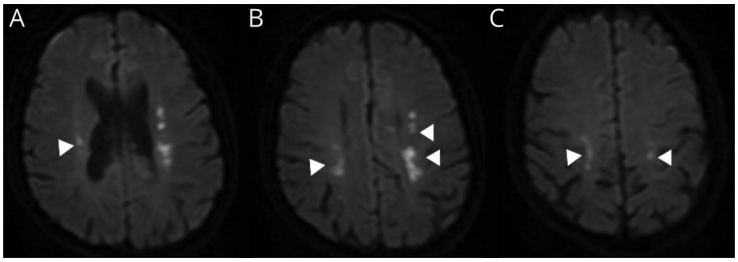
Figure 1 Brain MRI Demonstrating Watershed Diffusion-Weighted Imaging (DWI)–Hyperintense Signal



(A–C) Brain MRI demonstrates DWI-hyperintense signal (arrowheads) involving bilateral corona radiate, which fit the watershed infarction pattern.

A 47-year-old man presented to clinic with progressive right-hand bradykinesia and shuffling gait for 8 months. He was diagnosed with parkinsonism. Brain MRI demonstrated diffusion-weighted imaging (DWI)–hyperintense signal involving bilateral corona radiate (figure 1) and

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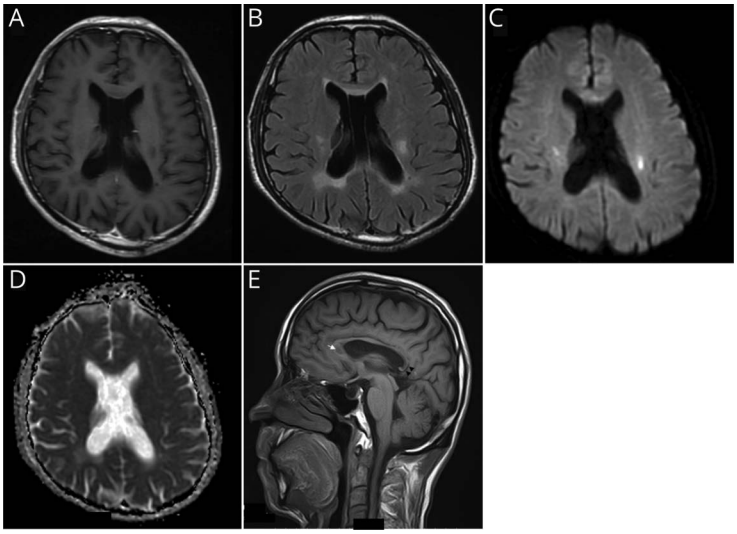
Figure 2 Extensive White Matter Hyperintensity Lesion on Contrast Brain MRI



(A and B) Several lacunae with extensive white matter hyperintensity lesions involving bilateral lateral periventricular regions without enhancement. (C and D) Diffusion-weighted imaging–positive lesions without hypointensity appearance on apparent diffusion coefficient. (E) Hypointensity lesions on rostrum of corpus callosum (white arrow) and predominant splenial atrophy (black arrowheads).

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T2-weighted MRI showed white matter changes (figure 2). Colony-stimulating factor 1 receptor (*CSF1R*) gene sequencing revealed the pathogenic variant c.2381T>C(p.Ile794Thr), confirming the diagnosis of hereditary diffuse leukoencephalopathy with spheroids.[1] The patient was treated with levodopa and selegiline with minimal response.[2]

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Disclosure

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Name	Location	Contribution
Yi Dong, MD, PhD	Huashan Hospital, Fudan University, Shanghai, China	Collection and interpretation of the data, manuscript drafting
Xin Cheng, MD, PhD	Huashan Hospital, Fudan University, Shanghai, China	Manuscript revision
Qiang Dong, MD, PhD	Huashan Hospital, Fudan University, Shanghai, China	Supervision, manuscript revision

References

1. Guerreiro R, Kara E, Ber IL, et al. Genetic analysis of inherited leukodystrophies: genotype-phenotype correlations in the CSF1R gene. *JAMA Neurol.* 2013;70(7):875-882.
2. Sunda C, Fujioka S, Gerpen J, et al. Parkinsonian features in hereditary diffuse leukoencephalopathy with spheroids (HDLS) and CSF1R mutations. *Parkinsonism Relat Disord.* 2013;19(10):869-877.

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