Teaching NeuroImages: Cortical damage with leptomeningeal enhancement in neuromyelitis optica spectrum disorder

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Figure Neuroimaging (MRI) during the course of the disease

Axial T2-weighted images, diffusion-weighted imaging (DWI), and coronal fluid-attenuated inversion recovery (FLAIR) images (arrows; A–C) show medulla hyperintensity. DWI and coronal FLAIR images show focal cortical hyperintensity (singular and double arrows; D–E) and leptomeningeal enhancement (F). The local foci improved after treatment (G–I).

A 27-year-old woman presented with headache, weakness, and numbness in both lower extremities for 2 weeks. Two years ago, she had refractory hiccups and vomiting with associated area postrema lesions on MRI (figure, A–C). Workup for infectious disease was negative. Serum aquaporin-4-immunoglobulin G was positive. Recent MRI showed cortical damage adjacent to the cerebral falx with leptomeningeal enhancement (figure, D–F).

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Treatment with immunoglobulin and high-dose methylprednisolone produced a significant improvement of the symptoms and the follow-up MRI (figure, G–I). This patient's case is unusual, as neuromyelitis optica spectrum disorders rarely involve the cortex and pia mater.^{1,2}

Author contributions

Dr. Sun: conception, design, and writing the first manuscript.

Dr. Wu: critical revision of manuscript for intellectual content and study supervision.

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