

# Bilateral extensive corticospinal tract lesions in MOG antibody–associated disease

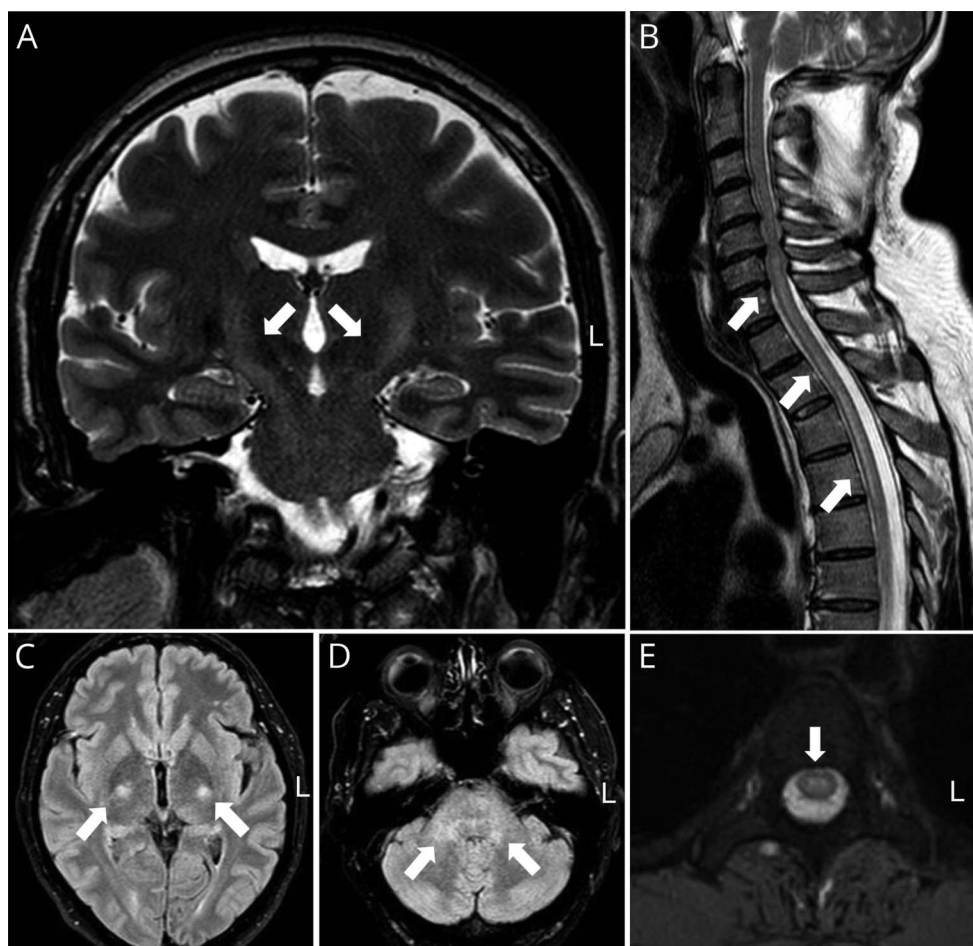
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**Figure 1** Brain and spinal cord MRI at presentation



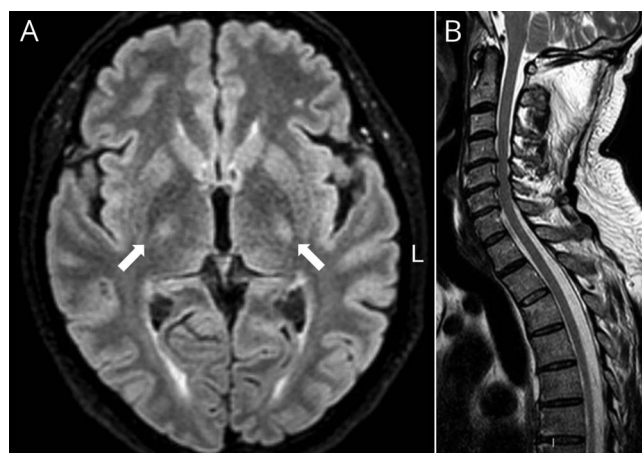
T2 sequences show bilateral hyperintensity of corticospinal tracts, extending from the internal capsule to pons (A), and a longitudinally extended hyperintense lesion of the spinal cord (B). Axial fluid-attenuated inversion recovery (FLAIR) sequences document bilateral lesions of corticospinal tracts (C) and middle cerebellar peduncles (D). Axial T2-fast field echo (T2-FFE) slice shows involvement of the central portion of the spinal cord (E, T3 level).

A healthy 53-year-old man developed acute flaccid paraplegia, spinal sensory level, and urinary retention. Examination revealed bilateral pronator drift. MRI demonstrated demyelinating non-enhancing lesions involving corticospinal tracts (CSTs), middle cerebellar peduncles, and spinal cord (figure 1). CSF analysis disclosed lymphocytic pleocytosis and mildly elevated protein.

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**Figure 2** Brain and spinal cord MRI after treatment



Follow-up brain and spinal cord MRI after 24 days shows reduction of corticospinal tract hyperintensity in axial fluid-attenuated inversion recovery images (A); spinal cord MRI demonstrates resolution of cord lesion in sagittal T2 sequences (B).

Euroimmun fixed cell-based assay for serum anti-myelin oligodendrocyte glycoprotein (MOG) and anti-aquaporin-4 (AQP4) antibodies showed low positivity for MOG immunoglobulin G (IgG) (1:10). Treatment with high-dose glucocorticoids and IV immunoglobulin was effective (figure 2). Long CST lesions were found in anti-AQP4 IgG-seropositive neuromyelitis optica spectrum disorders.<sup>1</sup> Bilateral extensive lesions following CST are a novel finding in MOG-related CNS autoimmunity.<sup>2</sup>

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### Disclosure

The authors report no disclosures relevant to the manuscript. Go to [Neurology.org/N](http://Neurology.org/N) for full disclosures.

### Appendix Authors

Name	Location	Contribution
<b>Vincenzo Mastrangelo, MD</b>	Department of Biomedical and Neuromotor Sciences, University of Bologna, Italy	Designed and conceptualized study, analyzed the data, drafted the manuscript
<b>Gian Maria Ascoli, MD</b>	Department of Biomedical and Neuromotor Sciences, University of Bologna, Italy	Acquisition of data, drafted the manuscript
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