

# Late Lyme neuroborreliosis with chronic encephalomyelitis

Isabelle Beuchat, MD, Vincent Dunet, MD, Pascal Meylan, MD, and Renaud Du Pasquier, MD

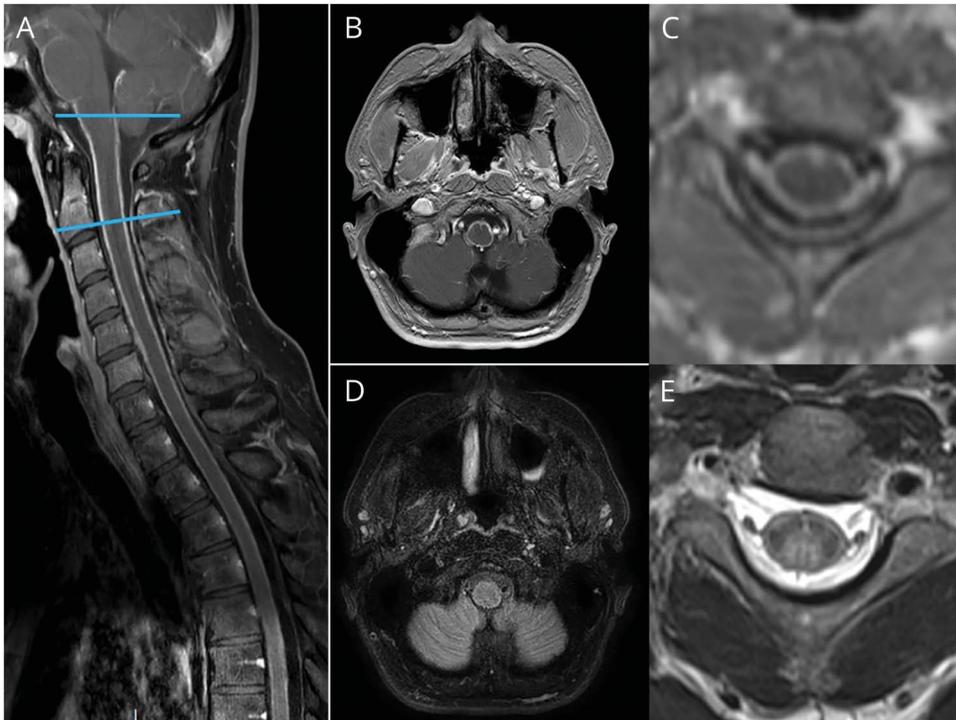
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## Figure Imaging



(A–C) Postcontrast T1-weighted imaging reveals leptomeningeal enhancement along the pons, the myelencephalon, and the spinal cord. Fluid-attenuated inversion recovery (D) and T2-weighted images (E) reveal peripheral hyperintensity of the myelencephalon (D), of the cervical cord, and in the fasciculus gracilis and fasciculus cuneatus (E). Lines across (A) represent the location of the axial images (top line: B–D, bottom line: C–E).

A 34-year-old man developed, over 7 months, progressive gait disorder and sphincter dysfunction. Examination demonstrated spastic and ataxic paraparesis. MRI revealed extensive meningo-myelitis (figure). Anti-*Borrelia burgdorferi* (Bb) immunoglobulin G (IgG) was positive (by Vidas ELFA, BioMérieux [Marcy-l'Étoile, France],  $n < 0.2$ ) in the serum (index 6.85) and in the CSF (index 2.68), as was immunoglobulin M in the serum (index 0.54). Lumbar puncture demonstrated pleocytosis (195 leukocytes/ $\mu\text{L}$ ) and intrathecal synthesis of anti-Bb IgG antibody production (intrathecal synthesis ratio = 4 after correcting for CSF/serum albumin ratio,  $n < 2$ ). After 4 weeks IV ceftriaxone 2 g daily, the status showed significant improvement. Late Lyme neuroborreliosis, defined as continuous disease lasting more than 6 months, represents less than 2% of all Lyme neuroborreliosis. Definite diagnosis can be made in the presence of suggestive neurologic symptoms, CSF pleocytosis, and intrathecal Bb antibody production.<sup>1,2</sup>

## Author contributions

Dr. Beuchat: clinical assessment, case report concept, drafting and revising the manuscript.

Dr. Dunet: provided the figure images, analyzed the radiologic images, performed critical

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revision of the manuscript content. Prof. Meylan: analyzed the biological data, performed critical revision of the manuscript for important intellectual content. Prof. Du Pasquier: clinical assessment, critical revision of the manuscript for important intellectual content.

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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.

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