

# Neuropathy and Cognitive Impairment Following Vaccination with the OspA Protein of *Borrelia burgdorferi*

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## Abstract

Neurological syndromes that follow vaccination or infection are often attributed to autoimmune mechanisms. We report six patients who developed neuropathy or cognitive impairment, within several days to 2 months, following vaccination with the OspA antigen of *Borrelia burgdorferi*. Two of the patients developed cognitive impairment, one chronic inflammatory demyelinating polyneuropathy (CIDP), one multifocal motor neuropathy, one both cognitive impairment and CIDP, and one cognitive impairment and sensory axonal neuropathy. The patients with cognitive impairment had T2 hyperintense white matter lesions on magnetic resonance imaging. The similarity between the neurological sequelae observed in the OspA-vaccinated patients and those with chronic Lyme disease suggests a possible role for immune mechanisms in some of the manifestations of chronic Lyme disease that are resistant to antibiotic treatment.

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