

The role of infection and vaccination in the genesis of optic neuritis and multiple sclerosis in children

R Riikonen ¹

Affiliations

PMID: 2589009 DOI: [10.1111/j.1600-0404.1989.tb03904.x](https://doi.org/10.1111/j.1600-0404.1989.tb03904.x)

Abstract

This article describes the association between previous infection and/or vaccination and the development of optic neuritis (ON) in 18 children. Ten of these children subsequently developed clinically definite multiple sclerosis (MS), while in 8 patients a clinically definite etiology could not be confirmed. Vaccination preceded the first ON attack in 6 patients, all but one of whom subsequently developed MS. It also preceded subsequent demyelinating events in 6 patients. Ten of the patients had a bacterial or viral infection within the 2 weeks prior to the first symptoms of ON. Intrathecal antibody synthesis against 2 or more viruses could be shown in 5 out of 8 patients studied; 5 out of 6 patients had oligoclonal antibodies in CSF and 12 out of 16 patients a high IgG index. Neither intrathecal antibody synthesis against 2 or more viruses nor elevated IgG indexes could be found in the control patients. Measles and mumps occurred at a significantly later age in the children who subsequently developed MS than in the control children, and these patients had significantly more events that might have impaired the blood-brain barrier than the controls. These results indicate that immunological events leading to MS may be triggered during childhood. Vaccination and infection often precede ON in childhood. Intrathecal viral antibody production can occur already in childhood at the time of the first symptoms of MS.