

Do Serious Infections Increase Risk for Multiple Sclerosis?

An epidemiologic study suggests an association between adolescent infections requiring hospitalization and later multiple sclerosis.

Multiple sclerosis (MS) is an autoimmune disease, most likely the result of multiple environmental factors with an underlying genetic susceptibility. For example, Epstein-Barr virus serologies for past infection are present in close to 100% of patients with MS. In this study, investigators used a population-based registry in Sweden to evaluate infections requiring hospitalization between birth and 19 years of age, and subsequent diagnosis of MS from age 20 years and beyond.

In the registry, 4022 (0.17%) individuals were diagnosed with MS from 20 years of age. Of those, 14.7% had an infection requiring hospitalization from birth through age 10, and 12.9% were hospitalized between 11 to 19 years. Whereas infectious hospitalizations from birth through 10 years were not associated with future MS diagnosis, infections with hospitalization in adolescence were associated with significantly increased future MS risk compared with no such infections at that age (adjusted hazard ratio, 1.33). The risk with any infection in adolescence, excluding infectious mononucleosis, was 1.24, and the risk was 1.17 after excluding infectious mononucleosis, pneumonia, and CNS infections. For reference, the risk with adolescent infectious mononucleosis was 2.80.

COMMENT

Bacterial and viral infections in adolescence that result in hospitalization are associated with a slight increased risk for subsequent multiple sclerosis. The precise etiology is not known, and the effect of other infections compared with that of infectious mononucleosis is relatively small. A serious infection might contribute to sensitizing or activating the immune response in subsequent years. Additional studies and evaluation of outpatient infections will be important to validate this study's findings.

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Xu Y *et al.* Hospital-diagnosed infections before age 20 and risk of a subsequent multiple sclerosis diagnosis.

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