MULTIPLE SCLEROSIS

Relapses in multiple sclerosis are associated with influenza A and Epstein–Barr infections

Multiple sclerosis (MS) is an autoimmune disease that has been linked to a number of viral infections. Now, Mervi Oikonen and colleagues from Finland have shown that influenza A and Epstein–Barr viruses are associated with relapses in patients with MS.

MS often develops in early adulthood, with patients usually exhibiting periods of symptomatic relapse and remittance before later experiencing progressive clinical decline. Several viral infections have been implicated in the immunological mechanisms underlying MS development. Seasonal patterns in relapses have also been observed, which are thought to be linked to the seasonality of viral epidemics.

Oikonen and colleagues aimed to further assess the temporal relationship between viral epidemics and MS relapses through the analysis of epidemiological data that had been gathered over a period

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of 10 years from 1 million people in Southwestern Finland. In their study, the researchers examined 407 patients with MS who had not received interferons—immunomodulatory drugs that are often used in MS treatment—so as to avoid any confounding influence of these agents on their final results.

Oikonen and colleagues investigated various viral infections, finding that epidemics of influenza A and Epstein–Barr viruses in the general population were temporally linked to peaks in the number of relapses occurring in the study group of patients with MS.

These results strengthen the notion that viral infection can influence MS development, and may have implications

for MS therapy. “Vaccination of MS patients against influenza could reduce MS relapses,” says Oikonen.

The relationship between relapses and disease progression in MS remains unclear. Nevertheless, the identification of factors associated with relapses continues to be an important avenue of MS research, and the researchers plan to explore the influence of other environmental factors on this disorder.

“Environmental effects that affect the immune system, such as air quality, sunlight, ultraviolet irradiation and bioavailability of vitamin D are likely to be implicated in the inflammatory processes of MS,” concludes Oikonen.

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