

# A virus similar to herpes could be a risk factor for multiple sclerosis

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The Epstein-Barr (EBV) virus –belonging to the herpesviruses family, which also includes the herpes simplex virus and the cytomegalovirus– is one of the environmental factors that might cause multiple sclerosis, a condition affecting the central nervous system, which causes are unknown.

This has been confirmed by University of Granada scientists that analyzed the presence of this [virus](#) in patients with [multiple sclerosis](#). Researchers analyzed antibody levels, that is, antibodies that are produced within the central [nervous system](#) and that could be directly involved in the development of multiple sclerosis.

Multiple sclerosis is a demyelinating condition affecting the central nervous system. Although the cause for this condition is unknown, patients with MS seem to have genetic vulnerability to certain environmental factors that could trigger this condition.

While other studies have tried to elucidate whether infection with the Epstein-Barr virus could be considered a risk factor in multiple sclerosis, what University of Granada researchers did was conducting a meta-analysis of observational studies including cases and controls, aimed at establishing such association.

## A 151-patient sample

In a sample of 76 healthy individuals and 75 patients with multiple sclerosis, researchers sought a pattern that would show an association between this virus and multiple sclerosis. Thus, they determined the presence of antibodies to [Epstein-Barr virus](#) antigens synthesized within the central nervous system. Simultaneously, they identified viral DNA to measure antibody levels to EBV within the central nervous system, and the presence of EBV DNA respectively.

This piece of research was conducted by Olivia del Carmen Santiago Puertas at the Department of Microbiology, University of Granada, and coordinated by professors José Gutiérrez Fernández, Antonio Sorlózano Puerto and Óscar Fernández Fernández.

The researchers found a statistically significant association between viral infection and multiple sclerosis starting from the detection of markers that essentially indicate an infection in the past, while markers that indicate recent infection or reactivation are not relevant.

The researcher Olivia del Carmen Santiago Puertas state that, as the factors triggering this condition are still unknown "studying them is important to try to develop a prevention method".

This study found an association between MS and some viral infection markers "but, to obtain a definitive conclusion, further research is needed with a significant number of patients that combine different microbiological techniques, where the different viral infection markers are recorded, and assessing patients' clinical state even years before the onset of the first symptoms of multiple sclerosis".

**More information:** Relation between Epstein-Barr virus and Multiple Sclerosis. Analytic study of scientific production. European Journal of Clinical Microbiology and Infectious Diseases. 2010.

Provided by University of Granada

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