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# NEUROLOGY AND NEUROIMMUNOLOGY

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### The Role of Herpes Viruses in Autoimmune Diseases

The Herpes viruses are a group of species specific viruses with very little ability to cross species. Humans are the only known hosts for these viruses and they survive through latency and periodic recrudescence. There are nine known human Herpes viruses. Of these, 4, 6 and possibly 7 (EBV and Roseola viruses) appear to be involved in autoimmune disease. EBV has been found in the joint lesions of rheumatoid arthritis and, though controversial, has been reported in multiple sclerosis (MS) plaques. Also, Herpes 4 has been found in MS plaques. These Herpes viruses have the ability to immortalize lymphocytes (6 B-cells, 6 and 7 CD4 + T-cells and provide them resistance to elimination by apoptosis. Thus, the thymus may be unable to eliminate them in the thymus which is important in eliminating cells directed against self thus permitting autoimmunity. In rheumatoid arthritis, EBV is found in synovial tissues and is presumed to contribute to the inflammatory response and destroying the lymphocytes

in the bone marrow and synovial tissues is usually effective in controlling the disease. In this lecture we will discuss the evidence for Herpes viral involvement in autoimmune diseases and possible mechanisms by which they could induce autoimmunity. In MS, a similar mechanism is likely to be in play and anti-CD20 monoclonal antibodies (rituximab and ocrelizumab) are effective therapies.

#### Speaker Biography

Dr. Robert M completed his MD degree at the age of 23 years from the University of Tennessee. His internship and neurology residency were at Wayne State University followed by fellowships at the Montreal Neurological Institute and Harvard University. He has served on the faculty at Stanford Medical School, Johns Hopkins Medical School, served as director of the Center for Brain Research, University of Rochester and at Oregon Health and Science University, and is now Professor Emeritus at University of Mississippi. He has published more than 100 papers in reputed journals and is the founding editor of the International Journal of MS Care.

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