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RESEARCH/CLINICAL UPDATE

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Immune System Variations May Underlie Differences in MS between African Americans and Caucasians

A new report shows differences in immune system responses between a group of African Americans with MS compared with Caucasians. Previous research had shown that clinical symptoms differ between these groups, and the current findings may help to explain why. Drs. John R. Rinker II, Anne Cross (Washington University in St. Louis) and colleagues have published this study in the July 3 issue of [Neurology \(2007;69:68-72\)](#). Dr. Rinker was supported by a 2006-2007 Serono-Pfizer Clinical Fellowship of the National MS Society.

Background: Generally, the risk of MS in African Americans is around half that of Caucasian Americans. Researchers have previously reported significant differences in the clinical characteristics of MS in African Americans and Caucasian Americans: in that study, African Americans tended to have a more aggressive course of disease, were at higher risk for developing mobility impairments, were more likely to develop MS later in life, and were at higher risk for having symptoms restricted to the optic nerve and spinal cord ([Neurology 2004;63\[11\]:2039-45](#)).

Study and Results: The team sought to determine if differences in the immune system – which launches an attack on the brain and spinal cord in MS – underlie these clinical differences. They reviewed the medical records of 66 African Americans and 132 Caucasian Americans with MS for whom results of cerebrospinal fluid (CSF) tests were available. This test is often given to help confirm the diagnosis of MS. The CSF of people with MS usually contains elevated levels of antibodies called IgG, as well as a specific group of proteins called oligoclonal bands. These findings indicate an abnormal immune response within the central nervous system.

The group found that IgG antibodies in the spinal fluid were on average 29% higher in African Americans than in Caucasian Americans. The study also confirmed previous reports that African Americans tended to need walking aids sooner than Caucasians (on average, African Americans had MS for nine years before needing ambulatory assistance such as a cane, compared to 17 years for Caucasians). However, the study did not find that higher antibody levels could predict earlier need for ambulatory assistance.

The authors caution that the results may be affected by the fact that patients for whom CSF samples were available may have had the test performed to help diagnose unusual courses of MS – such as very mild or very aggressive forms. They add that the challenge facing researchers now is to understand *how* this increased immune response relates to the differences in clinical symptoms.

-- Research and Clinical Programs Department