

RESEARCH/CLINICAL UPDATE

January 26, 2007

Keyword: antibodies, myelin
SECTION: MONITORING DISEASE
ACTIVITY

ADDITIONAL ROUTING

_____ Research Advocate Staff Liaison
_____ Chapter President
_____ I & R specialists

Study Refutes Prior Claim that Blood Test Can Predict Course of MS

A new study refutes a previous claim that the presence of myelin-specific antibodies in serum could predict whether a person who had experienced a single episode of nerve dysfunction would eventually develop multiple sclerosis. The study, by Drs. Jens Kuhle and Ludwig Kappos (University Hospital, Basel), Rupert Sandbrink (Schering, Berlin) and others, appears in the January 25, 2007 *New England Journal of Medicine* ([NEJM 2007;356:371-8](#)). The study concludes that there is still no simple laboratory test that can diagnose or predict the course of MS.

MS is an immune-mediated disease that is diagnosed with a variety of clinical, laboratory and electrophysiological tests. According to standard guidelines called the McDonald criteria, there must be evidence that more than one neurological attack has occurred over time and in a different part of the nervous system. Often a person experiences a single neurological attack, and if there is other suggestive evidence such as brain MRI lesions, this condition is called clinically isolated syndrome (CIS). A person with CIS may never experience any other episodes, or he or she may eventually develop clinically definite MS. Being able to predict who is likely to develop definite MS would allow for earlier treatment and hopefully a better outcome.

In 2003 an article by Dr. Thomas Berger and others, published in the *New England Journal of Medicine*, claimed that antibodies detected in the serum of patients who had CIS could predict the transition to clinically definite MS. The Berger study involved 103 patients, and identified predictive antibodies against two proteins in myelin -- MOG and MBP. (Myelin, a nerve-insulating sheath, is a main target of the immune attack in MS.) Although some laboratories began offering to test for these myelin antibodies, most MS clinicians did not alter their practice or use such tests to offer prognoses to people with CIS.

The Kuhle study is the first large-scale investigation that refutes the study by Dr. Berger and co-authors. The group took advantage of a large clinical trial testing the ability of Betaseron (interferon beta-1b) to delay or prevent the onset of definite MS in 462 patients with CIS. Following methods similar to those used by the Berger group, they were unable to find any association between the presence of anti-MOG or anti-MBP antibodies and the progression to definite MS or to a diagnosis of MS.

The search for serum antibodies or other such “biomarkers” that may help diagnose or predict MS is a significant and important endeavor being conducted by collaborating scientists in the U.S., Canada and Europe.

-- Research and Clinical Programs Department