

Study finds twenty percent of children with MS don't respond to first-line treatment

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Researchers from the National Network of Pediatric MS Centers of Excellence, in the first retrospective study of the response of children with multiple sclerosis to standard, or first-line, therapies, found that one-fifth of patients involved in the review required "second-line" treatments.

Results of the study, published online first in the December 2010 issue of the *Archives of Neurology*, also reported that Hispanic children with MS were more likely to experience "break-through disease" while receiving first-line therapies than non-Hispanic children.

E. Ann Yeh, MD, assistant professor of neurology at the University at Buffalo, is first author. The National Network of Pediatric MS Centers includes Stony Brook University, University of California - San Francisco, University of Alabama-Birmingham, The Mayo Clinic, and Massachusetts General Hospital, in addition to UB.

The review of data covering records of 243 children treated an average of 3.9 years showed that 144 (58%) stayed on their first therapy, primarily [interferon beta](#), 65 (25.2%) were switched to one other therapy, 29 (11.2%) were switched twice, and 20 (7.8%) were switched three times.

While most children switched to other first-line MS drugs, 55 children, or 21.3 percent had to be switched to a variety of "second-line" drugs, such as broad spectrum chemotherapies and corticosteroids, results

showed. These children had shown MS relapses or new [brain lesions](#) detected on MRI scans.

"Multiple papers on the use of first-line therapies in the pediatric MS population have been published over the past 10 years," says Yeh, "and the use of first-line therapies in this population has come to be accepted as relatively safe. In practice, however, we were seeing more and more children who continued to have very active disease despite use of first-line therapies.

"Little information on the use of second-line therapies in children with MS was available prior to the publication of this paper, so we set out to evaluate the use of second-line therapies in treatment-resistant cases of pediatric MS."

MS commonly is considered a disease diagnosed in young to middle-aged adults. However, studies have determined that 8,000-10,000 children in the U.S. have MS, which accounts for two-to-five percent of those diagnosed with the disease. As many as 10,000-15,000 children are estimated to experience MS symptoms.

"The review clearly shows that a subset of children with pediatric MS has aggressive disease in need of chemotherapy or other second line therapies," says Yeh, "and, further, that these second-line therapies may be well tolerated in this group. It also suggests that almost 80 percent of children with MS will probably respond to one of the currently FDA approved first line MS therapies, such as interferons and glatiramer acetate.

Provided by University at Buffalo

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