MedicalXpress

Study suggests targeting B cells may help with MS

April 24 2014

A new study suggests that targeting B cells, which are a type of white blood cell in the immune system, may be associated with reduced disease activity for people with multiple sclerosis (MS). The study is released today and will be presented at the American Academy of Neurology's 66th Annual Meeting in Philadelphia, April 26 to May 3, 2014.

For the study, 231 people with relapsing-remitting MS received either a placebo or one of several low dosages of the drug ofatumumab, which is an anti-B cell antibody, for 24 weeks, with the first 12 weeks making up the placebo-controlled period. The main objective was to determine the effects of ofatumumab dosing regimens compared to placebo on the total number of new brain lesions assessed every four weeks over a 12-week period.

All dose groups including placebo showed lesion activity in the first four weeks with lesion suppression in all ofatumumab dose groups from weeks four to12. Researchers measured the amount of B cells in participants and compared that to the total number of new brain lesions that appeared on brain scans, which is a marker of disease activity.

The researchers found that when B cells were reduced to below a threshold of 64 cells per microliter, disease activity, as measured by appearance of new brain lesions, was significantly reduced. On average, participants had an annualized rate of less than one new brain lesion per year when B cells were maintained below a threshold of 32 to 64 cells per microliter, compared with 16 lesions without treatment.

The most common side effects, defined as those occurring in at least five percent of participants and at a rate twice that of placebo for weeks zero to12, were injection-related reaction, dizziness, anxiety, fever, respiratory tract infection and nerve pain.

Study author Daren Austin, PhD, of GlaxoSmithKline in Uxbridge, United Kingdom, and a member of the American Academy of Neurology, said the study results also suggest that peripheral, rather than central, B cells may be the most relevant target for anti-B cell therapy.

"These results need to be validated, of course, but the findings are interesting," Austin said. "They provide new insight into the mechanism of B cells in MS and present a possible new target threshold for exploring the potential benefit of anti-B cell therapy."

Ofatumumab is not approved anywhere in the world for use in the treatment of multiple scelorosis.

Provided by American Academy of Neurology