MS drug tied to rising JC virus antibody levels

January 27 2016

People who take the drug natalizumab for multiple sclerosis may have up to a 10 times greater risk of developing a risk biomarker for activity of a virus that can lead to an often fatal brain disease, according to a study published in the January 27, 2016, online issue of *Neurology, Neuroimmunology and Neuroinflammation*, a medical journal of the American Academy of Neurology.

Progressive multifocal leukoencephalopathy (PML) is a rare and often fatal disease characterized by damage to the white matter of the brain. It is caused by the John Cunningham virus (JCV), a common virus usually kept under control by the immune system. But people with weakened immune systems, or on immunosuppressive drugs, are more susceptible to JCV-related problems. Natalizumab prevents immune cells from getting into the brain.

"An increase in the levels of anti-JCV antibodies could signify an increased risk of PML," said study senior author Heinz Wiendl, MD, of the University of Muenster in Germany and member of the American Academy of Neurology. The level of antibodies is a marker for exposure to JCV and therefore the risk for PML.

In the study, researchers used a blood test to monitor levels of anti-JCV antibodies over a 15-month period in 525 people in Germany and over two years in 711 people in France. All had multiple sclerosis and were taking natalizumab.

They found people converted from being anti-JCV negative to anti-JCV positive at the following annual rates: 10 percent in the German group and nearly 9 percent in the French group. Those rates are much higher than the rate of 1 percent per year for the general population and for people with multiple sclerosis not treated with natalizumab. In the German group, 43 of 339 people who were initially anti-JCV negative tested positive for the antibodies during the study. In the French group, 41 of 243 people who were anti-JCV negative tested positive for the antibodies during the study.

In people who were anti-JCV positive already at the beginning of the study, their level of antibodies also rose over time. Treatment with natalizumab was associated with a 13-percent yearly rise in the level of anti-JCV antibodies in the blood. In the German group of 525 people, those considered medium risk of PML grew by seven people, representing 5 percent of the group at the beginning of 15 months, increasing to 6 percent. The high-risk group grew by 14 patients, initially representing 22 percent of the group, increasing to 25 percent.

"Even though anti-JCV antibodies were present at a higher level, it does not necessarily mean that an individual will get PML," said Adil Javed, MD, PhD, of the University of Chicago in Illinois, who wrote a corresponding editorial and is a member of the American Academy of Neurology. "The risk of PML in JCV positive people being treated for multiple sclerosis with natalizumab without prior immunosuppressant therapy is one in 1,000 people. The risk of a multiple sclerosis attack in untreated patients is one in every two people."

Wiendl said, "It is important that people with multiple sclerosis taking natalizumab speak with their doctor before making any changes to their treatment. Still, this study shows anti-JCV antibodies may serve as a useful biomarker. Natalizumab did appear to increase the levels of anti-JCV antibodies and this higher level may be associated with a higher risk

of PML. The results of this study underscore the need for frequent monitoring of anti-JCV antibodies in people who are being treated with natalizumab for multiple sclerosis."

Wiendl noted that the study does not prove that natalizumab causes the virus to replicate at higher rates, leading to higher anti-JCV antibody levels, but that it shows an association.

Provided by American Academy of Neurology

Citation: MS drug tied to rising JC virus antibody levels (2016, January 27) retrieved 17 April 2024 from https://medicalxpress.com/news/2016-01-ms-drug-tied-jc-virus.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.