

Medical Update Memo

June 29, 2009

Effect of statins on clinical and molecular responses to intramuscular interferon beta-1a

Summary

Statins have been used to reduce cholesterol levels in the general population and have recently also been shown to have anti-inflammatory properties. However, despite this anti-inflammatory effect, it had been suggested in previous studies that people with MS who were taking statins could have a higher risk of developing new MS lesions and relapses. Nevertheless, in this study the authors have demonstrated that treatment with statins in people receiving interferon beta is not causing a reduction of the therapeutic effect of the interferon. **Neurology. 2009 Jun 9;72(23):1989-93**

Details

Findings from a small clinical study suggested that statins may counteract the therapeutic effects of interferon beta (IFNbeta) in patients with relapsing-remitting multiple sclerosis (RRMS). A post hoc analysis was conducted exploring data from the Safety and Efficacy of Natalizumab in Combination With IFNbeta-1a in Patients With Relapsing-Remitting Multiple Sclerosis (SENTINEL) study to determine the effects of statins on efficacy of IFNbeta. SENTINEL was a prospective trial of patients with RRMS treated with natalizumab (Tysabri, Biogen Idec, Inc., Cambridge, MA) plus IM IFNbeta-1a (Avonex, Biogen Idec, Inc.) 30 microg compared with placebo plus IM IFNbeta-1a 30 microg. Clinical and MRI outcomes in patients treated with IM IFNbeta-1a only (no-statins group, n = 542) were compared with those of patients taking IM IFNbeta-1a and statins at doses used to treat hyperlipidemia (statins group, n = 40).

No significant differences were observed between treatment groups in adjusted annualized relapse rate (p = 0.937), disability progression (p = 0.438), number of gadolinium-enhancing lesions (p = 0.604), or number of new or enlarging T2-

hyperintense lesions ($p = 0.802$) at 2 years. More patients in the statins group reported fatigue, extremity pain, muscle aches, and increases in hepatic transaminases compared with patients in the no-statins group. Statin treatment had no ex vivo or in vitro effect on induction of IFN-stimulated genes.

Authors concluded that statin therapy does not appear to affect clinical effects of IM interferon beta-1a in patients with relapsing-remitting multiple sclerosis or the primary molecular response to interferon beta treatment.

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