New link found between MS treatment and vitamin D

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(Medical Xpress) -- A new study by researchers at the Menzies Research Institute Tasmania (Menzies) suggests that one of the main treatments for multiple sclerosis (MS) may also increase the amount of vitamin D patients receive from sun exposure.

More people suffer with MS per capita in Tasmania than in any other state in Australia. There is currently no cure, but treatments are available to ease some of the symptoms.

This observational study published in the prestigious journal *Neurology* found that patients taking one of the most common treatments for MS, interferon-beta, had higher vitamin D levels than those not on this treatment or those using other forms of treatment for MS.

Around 60 per cent of MS patients with the relapsing-remitting form of MS are treated with interferon-beta. It is derived from a naturally-occurring component of the human immune system and has been found to reduce the frequency of relapse and other specific symptoms of MS.

Despite being a front-line treatment in MS, how interferon-beta actually works in MS is unclear, though it is thought to act by affecting the immune system.

The study used data from the MS Longitudinal Study, from 2002-2005, and this analysis used data from 178 persons with MS living in southern Tasmania.

Menzies researchers Dr. Niall Stewart and Dr. Steve Simpson, Jr. were co-first authors on the paper. Dr. Simpson says the findings suggest that part of the therapeutic effects of interferon-beta on relapse in MS may be through its effects on vitamin D, since vitamin D has the ability to reduce inflammatory pathways in the immune system.

“Not only did we find that persons taking interferon-beta had higher vitamin D levels than those not taking it, we also found that this increase in vitamin D was due to an enhancement of the association between sun and vitamin D, with persons on interferon-beta having nearly three-times as much vitamin D from similar amounts of sun exposure to those not taking interferon-beta,” Dr. Simpson said.

“We have previously shown persons with MS with higher vitamin D levels had lower numbers of relapses. In this analysis, however, we found that vitamin D was only associated with reduced risk of relapse among those using interferon-beta.

“Interestingly, the reciprocal was also true, with interferon-beta only associated with reduced risk of relapse among those with higher levels of vitamin D,” Dr. Simpson said.

Senior author, Professor Bruce Taylor, says the new findings have the potential to markedly affect clinical practice in the treatment of MS, but cautions that more research is required.

“This study adds to the growing body of research into MS, but before we can apply these findings to MS treatment practice, clinical trials must be done to prove these associations. Menzies is planning to undertake such a trial in the future,” Professor Taylor said.

“This study does provide further support for persons with MS to periodically have their vitamin D measured, particularly in winter, and if

they are deficient, to seek the advice of their physician as to whether supplementation is appropriate for them."

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