

Lack of the sunshine vitamin raises risk of MS: Canadian study

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MONTREAL — New Canadian research is offering hope that some day preventing multiple sclerosis will be as simple as popping a vitamin D pill each day.

A study of Canadian children suffering their first symptoms of the disease has made the surprising discovery that those with low levels of the vitamin are far more likely to develop a full-blown case of it than those who have sufficient amounts.

The finding suggests that vitamin D has a preventive effect on multiple sclerosis, raising the possibility that doctors might be able to forestall the progression of the debilitating disease by having patients take the widely available nutrient shortly after diagnosis.

The discovery, presented this week at an international conference on multiple sclerosis in Montreal, has excited researchers. They say it represents one of the most promising leads for unravelling the cause of multiple sclerosis, which is currently unknown, and treating people with the condition.

Vitamin D sits on a shelf in a Dartmouth, N.S. drug store on Friday, June 8, 2007.

“We are implicating vitamin D insufficiency as a risk factor,” said Brenda Banwell, director of the pediatric multiple sclerosis program at Toronto's Hospital for Sick Children and one of the researchers conducting the study.

Medical researchers have been studying the vitamin for a possible link to MS because of the observation that Canada and other high-latitude countries lying farthest from the equator generally have the highest rates of the disease. This geographical factor implicates the vitamin because the amounts of it in people vary with the intensity of sunlight they receive, which in turn is determined by where they live.

“There is a very consistent pattern of latitude and multiple sclerosis,” observed Cedric Garland, an epidemiologist at the University of California, San Diego, who is writing a paper on the worldwide incidence patterns of the disease, comparing it to sunlight levels.

For about half the year in Canada, it isn't possible to make the vitamin the natural way — through naked skin exposed to strong sunlight — leading to widespread deficiencies. The link to light is the reason the nutrient is dubbed the sunshine vitamin — although it can be taken in pill form, and small amounts are in some foods, such as salmon and fortified milk.

“People have been looking for things in the Canadian environment that might account for why Canada has such a high MS risk, and this is one of those factors,” Dr. Banwell said of vitamin D deficiency.

Since 2004, Dr. Banwell and other researchers have been compiling a national survey of children going to hospital with symptoms indicating early signs of MS. The children, whose average age was 11, were given blood tests to establish their vitamin D status.

Preliminary results indicate that 28 per cent of those with the lowest amounts at the time of initial symptoms have gone on to develop the condition by suffering a second attack, compared with only 7 per cent of those with higher levels. There are about 250 children currently enrolled in the study.

A separate study at the Hospital for Sick Children found that 66 per cent of those with the disease have outright vitamin D deficiencies or have insufficient amounts.

The vitamin D finding “screams to all parents, ‘make sure your child's vitamin D level remains adequate ... if you want to protect them from MS,’” says Ashton Embry, president of Direct-MS, an Alberta charity, that has funded research into vitamin D's role in the disease.

The results suggest there is an association between vitamin D and MS, although definitive proof that it can be used as a treatment, and the optimum amounts, would require a large-scale, drug-style clinical trial.

Multiple sclerosis is a disease of the brain and spinal cord that arises when the body's immune system attacks the protective myelin cells of the central nervous system, leading to such symptoms as extreme fatigue, blurred vision, muscle stiffness and co-ordination difficulties.

Researchers suspect vitamin D works to prevent MS by short-circuiting the autoimmune attack on the myelin.

About 1,000 new cases of the disease will be diagnosed this year in Canada, and an estimated 55,000 to 75,000 people are currently living with it. Women are far more likely to be stricken than men.

Although doctors do not yet know for sure what dose of vitamin D might protect against multiple sclerosis, it is likely to be well above current Health Canada recommendations.

Dr. Banwell said it is a simple matter for people with the illness to have their blood levels of vitamin D checked, and then correct any deficiencies through supplements. But she said the level Health Canada recommends for children and adults under 50 – 200 international units a day, or the amount in two cups of milk – is too low to raise blood levels much.

Paul O'Connor, a professor of neurology at the University of Toronto, has conducted research giving adults with MS up to 40,000 IU a day, and found no adverse impacts. He said the testing showed those receiving the vitamin had fewer relapses than a control group that didn't receive the nutrient. “That was exciting,” he said of the finding.

The possibility that vitamin D may protect against MS is already being embraced by those at risk of the disease.

Vanessa Taylor, whose eight-year-old son Jordan temporarily lost sight in his right eye when he had initial symptoms in March, says she's been giving him some every day. Since the first attack, he has recovered almost all his sight and hasn't had any more signs of the ailment.

"I tell everybody, 'Give your kids vitamin D,'" she says.