

## **VITAMIN B12 LEVELS AND MERCURY - A LINK WITH MULTIPLE SCLEROSIS AND OTHER DISORDERS**

Swedish physician and researcher, Dr Britt Ahlrot-Westerlund, working at the Karolinska Institute, has investigated levels of specific nutrients, including vitamin B12, in heavy metal-affected patients (and in particular those with multiple sclerosis), since the early 1970's. She has specifically studied vitamin B12 levels, mainly in heavy metal-affected patients, and has done considerable work with supplementing vitamin B12 by injection in her amalgam damaged patients with many different disorders, particularly those with multiple sclerosis. In an article written in conjunction with Heavy Metal Bulletin Editor, Monica Kauppi, Dr Ahlrot-Westernund explains that the administration of relatively high doses of vitamin B12, in the form of methylcobalamin, in the treatment of fibromyalgia, diabetics, MS and amalgam-related disorders, has been gradually increasing in Sweden since the end of the 1980s. She reports that the results of this treatment are remarkable.

Note: According to the Heavy Metal Bulletin, March 1999, some researchers [including Dr Hal Huggins] and the International Academy of Oral Medicine and Toxicology in the USA have previously recommended caution in the use of methyl cobalamin injections in the treatment of amalgam patients. They feared that vitamin B12 in that form could readily methylate mercury in the body, ie. transform it into its more harmful form of methylmercury - when methylated, mercury is much more easily absorbed to the blood and then transformed to mercury ions, which are an intensely toxic form of mercury.

### **THE PRESENCE OF MERCURY CAN REDUCE VITAMIN B12**

In a joint article in the December 1995 issue of Heavy Metal Bulletin by Dr Ahlrot-Westerlund and Editor, Monica Kauppi, they explain that the presence of heavy metals can reduce the uptake of vitamin B12. "The transport of vitamin B12 to the brain can be disturbed or interrupted by heavy metals such as mercury, which affects the blood-brain barrier by causing leakage and hampering the active transport of nutrients. In regard to heavy metal toxicity, in many cases it can be assumed that multiple deficiencies, not always easily separable, can be found."

"Lately it has been discovered that anaemia is not always present in neurological and psychological disturbances associated with B12 deficiencies. In diseases such as Alzheimer's and suspected amalgam related disorders, hidden B12 deficiencies in the central nervous system (without low blood values) have been found."

"Vitamin B12 deficiencies have been mainly related to blood deficiency diseases such as pernicious anaemia. Low levels of B12 are followed by neurological and psychological disorders, such as disturbed sense of co-ordination, paraesthesiae, loss of memory, abnormal reflexes, weakness, loss of muscle strength, exhaustion, confusion, low self-confidence, spasticity, incontinence, impaired vision, frequent need to pass water, and other psychological disturbances."

Dr Ahlrot-Westerlund explained a possible reason for the mercury/B12 connection: "Mercury seems to change valency and binding site in the body, and this causes increased free radical formation. It is possible that the mercury change in valency in pro-oxidative direction, oxidises the cobalt atom in the B12. Due to its molecular size, vitamin B12 normally has difficulties in crossing the blood-brain barrier, and it is possible that denaturation makes this even more difficult."

"Rarely detectable through normal testing procedures, such as blood serum or methyl malonic acid, B12 deficiencies in the brain and Central Nervous System can be determined by checking "increased homocystein in liquor cerebrospinalis, the most appropriate test method." (There are laboratories which do the specialised LIQUOR test method for vitamin B12, in Canada, France, USA and Britain, as well as the Uddevalla Hospital in Sweden.)

"The uptake from oral B12 supplementation is usually very low, approximately only 1 percent. Vitamin B12 is therefore given intramuscularly. Highly recommended by the Swedish Association of Dental Mercury Patients, the form methylcobalamin B12 is usually the drug of choice for treatment of patients with amalgam induced disorders. The reason why high doses of B12 (intramuscular injections in a specific form of methylcobalamin) are recommended is that, in the presence of heavy metals in the blood-brain barrier, most of the vitamin B12 seems to be consumed (for reasons we don't yet know) and, depending on the level of heavy metal exposure, part of the supplemented B12 will most probably also be consumed in this way until the surplus can be used in the brain where it is needed." She recommends that only certain brands of methylcobalamin B12 are used because some contain preservatives which can cause problems in sensitive patients. She also stresses that for this treatment for patients with metal-induced disorders, a certain protocol be followed which includes the addition of folic acid, and vitamin B6.

#### ANECDOTAL EVIDENCE:

The following case studies are reported by Dr Ahlrot-Westerlund, to illustrate the effect that this type of vitamin B12 administration can have on those who require it. All were dental amalgam patients, who had their amalgams removed, with antioxidant supplementation, as part of the treatment. Dr Ahlrot-Westerlund writes "Of the patients in these case reports, some were ill before amalgam removal, while others developed symptoms in connection with unprotected amalgam replacement, and one patient became too ill to be able to complete the amalgam exchange. Not all patients have "ideal" replacement materials. There are many more cases of remarkable recovery after methylcobalamin treatment than these few, representing patients with a variety of diagnoses."

1: A Swedish physician, aged fifty, suffered from fibromyalgia and painful paraesthesia for years and was unable to work in her profession. She treated herself with daily injections of methylcobalamin, folic acid and B6, together with the recommended antioxidant supplementation for amalgam patients. She noticed that not only did she benefit intellectually (confirmed by me) but her symptoms ceased after six months treatment. Thinking that she was cured, she stopped the treatment, but after only about a week all her symptoms returned. She recommenced the treatment and after eight days she recovered.

2: A patient with a diagnosis of multiple sclerosis was investigated for heavy metals in 1985. She had a high pathological level of mercury in the LIQUOR test (2.3 milligrams mercury per litre). Her condition rapidly deteriorated. For six years she slurred incomprehensively, and she could not fix her eyes long enough to be able to read due to nystagmus, dimness of vision and double vision. She developed a spastic paraplegia and as her hands were paralysed, she was unable to feed herself. She was confined to a wheelchair. In November 1994, the vitamin B12 treatment was started (similar to case no.1). After a week the patient was able to speak on the telephone in a normal voice, and she noticed that her mind had 'cleared up'. Ten days later she was able to read the newspaper for the first time in over seven years, and to do fine embroideries in silk. Three weeks later she could stand up with support and eat without much assistance (the left hand is still not functional but the right one is fine). She is now taking part in social life and goes to the theatre and restaurants. In her latest report in December 1995, she told me that she felt much stronger and less tired, although she was still unable to walk.

3: A Swedish member of parliament, with chronic mercury poisoning from dental amalgam, was becoming more and more exhausted and progressively losing her capacity to work. Having removed her amalgams a few years ago, she had followed the recommended antioxidant program. After about five months of methylcobalamin treatment, her capacity to work and her intellectual capacity in general greatly improved. She now works 16 to 18 hours a day and only needs to sleep for five hours.

4: A former lieutenant in the Swedish army, born in 1959 wanted to change his career to medicine. In

his third year of medical studies however, he became ill and was diagnosed with amalgam toxicity. His symptoms included physical weakness and dizziness, but above all he suffered from a very strong depression (with suicidal thoughts), and an inability to concentrate which forced him to give up his studies. He took antidepressants, and in early 1995 began the methylcobalamin program, which in his case also included a high oral dose of vitamin C (twenty grams per day) and the amino acid tryptophan. Last summer he stopped taking the antidepressives and his condition since then has gradually improved. He is now working full time as a teacher.

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Dr Britt Ahlrot-Westerlund passed away in March 1999. Heavy Metal Bulletin remarked that she will be remembered for her research into multiple sclerosis, free radicals, heavy metals, and vitamin B12, and "for always lending a helping hand whenever needed." Her important work will be made available by a group of Swedish researchers.

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