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Health Newsletter

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High-Dose Vitamin B12 in the Treatment of Dementia

Few medical practitioners know that high doses of vitamin B12 can prevent and even reverse the symptoms of Alzheimer's disease and other mental illnesses.

Extracted from
Nexus Magazine, Volume 14, Number 6
http://www.nexusmagazine.com

Introduction

It is interesting to consider what proportion of Alzheimer's dementia (AD) may result from under-nutrition, especially when it seems that an easy, low-cost, perfectly safe nutritional way exists that may allow people to avoid that misery of miseries which many consider worse than death. Some people might say, "That's too good to be true!" However, an at-home nutritional program using a high dosage of vitamin B12 may prevent and virtually eliminate AD. An early launch of the treatment soon after first warning symptoms start could even turn off the process.

Confusion, difficulty concentrating, loss of memory, marked changes in personality that can lead to outbursts of violence, hallucinations, wandering away and early death all characterize Alzheimer's dementia.

An estimated 2.3 million Americans now have AD. Prevalence doubles every five years after the age of 60, increasing from one per cent among those 60 to 64 years old up to 40 per cent of those aged 85 years and older.

Nursing home care costs about US$47,000 per AD patient annually and this figure is rising steadily, putting a huge burden on the health care system. The disease is also terrible for the patients' caregivers. In what experts are calling "a looming public health disaster", statistics suggest there will be between five and seven million Alzheimer's patients in the USA over the next 10 years.

Let's start with a little background. Mammals, including humans, are born with serum levels of vitamin B12 at about 2,000 pg/mL (picograms, i.e., trillionths of a gram, per millilitre). The level declines throughout human life owing to practices common in Western societies. Below 550 to 600 pg/mL, deficiencies start to appear in the cerebrospinal fluid. US clinical laboratories regard 200 pg/mL as the lower range of normal. That low limit was set with hematological criteria. But neuropsychiatric criteria, which are much higher, have become more critical.

"Most cases of Alzheimer's dementia are actually missed B12 deficiency cases, because of the too-low normal range for B12," wrote John V. Dommisse, MD, in 1991 in Medical Hypotheses. Dommisse, who practices medicine in Tucson, Arizona, has confirmed that Alzheimer's disease appears to result from too-low serum vitamin B12, and repletion of the vitamin succeeds despite other risk factors. Replenishing B12, according to Dommisse, can reverse 75 per cent of B12 deficiency dementias when discovered early enough.

As mentioned above, B12 therapy is perfectly safe; in other words, the risk of overdose is virtually nil. Here's the proof... Patients of Dr H. L. Newbold in New York City injected themselves three times daily with triple-strength doses of B12 (9,000 micrograms/day as hydroxycobalamin, the natural form) indefinitely. Their serum B12 levels reached 200,000 pg/mL (100 times the normal level found in newborn babies and higher). But none had any significant side effects.

Other aspects of the therapy should be noted: The neurological and cerebral manifestations of B12 deficiency require dosages larger, and extending over a longer time, than those needed to reverse hematological effects; and there is no reason to run the risk of not catching deficiency in time or to go to any unnecessary expense and inconvenience. To put it bluntly: try the harmless therapy and see if you benefit.

Other Conditions Benefit From B12 Replenishment

Besides Alzheimer's disease, B12 ("cobalamin"*) deficiency can also cause the following conditions. And when started early, replenishing B12 (i.e., restoring it to or near to levels found at birth) may often significantly improve these afflictions as well:

*** Depression**. Often in mild form, depression can be one of the first clues foretelling dementia. Chris Reading, BSc, DipAgSc, MBBS, of Australia concurs: "... in most cases of

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[not only mild but also] 'intractable depression', a subtle B12, or other nutrient, or thyroid hormone, deficiency has been missed." Psychotic depression has been particularly associated with B12 deficiency.

As I'll discuss later, success of B12 therapy against depression in its various forms is "probable".

*** Paranoid psychosis.** This nutritional deficit has also been linked to paranoid psychosis, characterized by over-suspiciousness and delusions of grandeur or persecution.

*** Bipolar-1 disorder** (manic depression), marked by alternating periods of elation and depression; and more commonly bipolar-2 disorder (cyclothymic personality), marked by swings of mood but within normal limits.

*** Chronic fatigue syndrome.**

*** Weakened immunity.** Weakened immunity can lead to susceptibility to recurrent infections and cancer, as well as increasing the risk of cardiovascular disease, cancer and much more by a second pathway: hindering remethylation of the toxic sulphur amino acid homocysteine back into the nontoxic essential amino acid methionine.

*** Asthma.** Incomplete digestion of foods due to hypochlorhydria and low pepsin production (see below) can be involved in a subsequent allergic response in asthma.

*** Disrupted sleeping/waking rhythms.**

*** Environmental illness.**

*** Low stress tolerance.**

*** Osteoporosis.**

*** AIDS** (acquired immuno-deficiency syndrome).

*** Premature aging.**

*** Multiple sclerosis.** Symptoms of MS have been noted in persons with a vitamin B12 deficiency prior to evidence of megaloblastic anemia. There is a remarkable epidemiological similarity between MS and pernicious anemia, and similar HLA (human lymphocyte antigens) are suggested for the association of the two conditions.

*** Alzheimer's mimicking and non-Alzheimer's dementia**.

Intramuscular injection of B12 also has yielded seeming miracle cures in still other desperate illnesses. Further, in numerous cases of patients with violent behavior, when B12 was replenished (with or without other changes in life), violent behavior disappeared.

"The only question now," writes Dommisse, "is, what proportion of cases of mood-disorder is caused by B12-deficiency and what percentage is idiopathic." Almost all of his uni- and bipolar patients have had B12 levels in the lowest one-third of the so-called normal (to prevent pernicious anemia) range—levels that he now regards as deficient for adequate affective, cognitive and other mental functions. When their levels have been raised to the highest one-third of that "normal" range, every one of those patients felt better. For some patients who came out of their depression or mood-swing disorder, this was the only new or different treatment they received. In subsequent instances when their affective disorder worsened, B12 levels had again dropped.

So, would restoring ample serum B12 levels prevent many or most of those adverse conditions? Evidence shown below, Dr Dommisse cautiously suggests, means, "Yes, at least in the case of depression".

There is no maximum allowable age to begin B12 therapy. Everyone loves an anecdote. A friend told me her 90-year-old live-in mother was beginning to think less clearly than in the past and to feel a bit depressed. I suggested: "If your dear mother would like to stop her incipient downward slide, let her start the therapy." God never wrote on tablets of stone that 90 years of age is too old to turn one's health around and begin to make life fun again. After a few weeks on high-dose B12 she was out in the woods with her daughter gathering items of interest. But three years later she "felt terrible" for want of enough water (F. Batmanghelidj, MD's authoritative study, Your Body's Many Cries for Water, states that chronic dehydration is the cause of AD).

The normal range for serum B12, states Dr Dommisse, should be defined as 600 to 2,000 pg/mL. Japan's "normal" range is 500-1,300. According to Dommisse, this may explain why Japan has such a low rate of Alzheimer's dementia compared to the USA. By some estimates, as many as 80 per cent of elderly American patients may share hidden B12 insufficiency.

Also, B12 deficiency is common with folate deficiency in dementia and worsens over time as the deficiency increases. The impact was seen first on neuropsychiatric measures; augmentation of B12 and folate materially improved scores on cognitive performance tests.

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Methods of Treatment

The most direct method for adding megadoses of B12 is through intramuscular (IM) injection, which requires a doctor's prescription and a doctor's or nurse's instruction. It is about as difficult technically as pushing a pin into a ripe orange and can be economical if a patient can self-administer or a companion can administer.

Another feasible approach uses inexpensive sublingual B12 at 2,500-5,000 mcg (2.5 to 5 mg), which anyone can buy at a quality health food store. Taken in that way, evidence indicates that most of the vitamin goes via the lymphatic system (see Sherry A. Rogers, MD, *Detoxify or Die*, 2005 ed., p. 270). Therefore, this treatment mode may yield more benefit by avoiding the digestive system.

Causes of B12 Insufficiency

Several common features of modern life accelerate the decline of vitamin B12 in serum through life, including the

following:

*** Microwave ovens.** In one test, microwaving milk degenerated 30-40 per cent of its vitamin B12 content in six minutes; with conventional heating, 25 minutes of boiling was needed to depress B12 that much. More importantly, the heat of microwaving destroys all the enzymes in ingested food, which are required to enable absorption and utilization of food. And so by eating microwaved food, both at home and in restaurant and take-out meals, tens of millions of Americans are making themselves increasingly vulnerable to AD as well as to cancer. One further note: microwaving, invented by the Nazis, is wisely forbidden in Russia.

*** The Western diet.** B12 ingestion and stores tend to be insufficient among millions who have for decades eaten RDA-fortified, yet vitamin- and mineral-depleted, processed Western diets, which are also big sources of disease-creating free radicals. Too low levels of omega-3 essential fatty acids in Western diets, harmful on their own in many ways, must also contribute to insufficient B12 levels. Omega-3 supplementation may yield its benefits largely through augmenting vitamin B12. Too low levels of acetyl-carnitine and folic acid also appear to worsen the risk of the condition.

It's worth noting that in an Alzheimer's disease mouse model, a diet rich in omega-3 essential fatty acids, specifically DHA (docosahexaenoic acid), has been shown potentially to slow or even to prevent Alzheimer's disease. At modest cost, we can easily ingest DHA and EPA (eicosapentaenoic acid) in fish oil or cod liver oil. And how about trans-fatty acids found in products labeled "zero trans-fats" with EPA approval? In a study of over 800 seniors, those with high TFA intake were twice as likely to suffer with Alzheimer's disease as those with the lowest intake (hsiresearch@healthiernews.com, 17 February 2006).

*** Hypochlorhydria.** Most commonly, B12 insufficiency results directly from hypochlorhydria (insufficient hydrochloric acid [HCl] in the stomach) or by achlorhydria (no HCl at all). The acid should be concentrated enough, in middle age, to dissolve a nail in an hour. Hypochlorhydria is likely caused by zinc or vitamin B6 deficiency and a shortage of ionized calcium. (Both deficiencies are typically present in older people.) Lack of enough pepsin or HCl in the stomach to generate the bond between B12 and its carrier protein typically shows with atrophic gastritis. Both are also risk factors for gastric cancer. Incomplete digestion of foods due to hypochlorhydria and low pepsin production also can be involved in subsequent allergic response in asthma.

*** Intrinsic Factor,** Bacteria, Cobalamid, Failure of Absorption. B12 deficiency can also result from inadequate stomach secretion of the tiny open-ended protein capsule known as "intrinsic factor"; from presence in the gut of bacterial overgrowth; from ingestion of cobalamid, a B12 antagonist; or failure of absorption for other reasons.

*** Antacids and Antibiotics.** Chronic overuse of antacids, both prescribed and over the counter (OTC), by tens of millions of elderly people may also be responsible. When all the acid is mopped up daily by antacids, the B vitamins never even get to first base. For example, B12 absorption is dramatically reduced when the drug Prilosec (omeprazole), which has recently been made available OTC in the USA, is used. "A significant percentage of patients taking omeprazole are also being treated for or are at high risk of heart disease, and therefore almost all are instructed to eat a diet low in red meat (or devoid of it completely) and of animal products, which are the best source of vitamin B-12". Also, omeprazole reduces gastric (stomach) levels of multi-protective ascorbic acid (vitamin C), still another route to cancer (see J. G. Hattersley, "*Alzheimer's dementia, vitamins B12 and B6, lithium, gingko biloba, dental mercury, genetic risk, and drinking water fluoridation*", J Appl Nutr 2005).

This is an egregious example of iatrogenic disease, created by tunnel-visioned one-organ specialists (who seldom if ever communicate with each other) using a "band-aid" approach to treatment of a symptom or test reading, oblivious to the possibly disastrous long-term effect on the patient. Other causes of B12 deficiency include excessive long-term use of antibiotics and other drugs to mask symptoms without learning and correcting their cause; oral antibiotics destroy the trillions of "good" bugs in the gut as well as the bad, thus ruining absorption.

*** Vegan Diets.** Many vegan (total) vegetarians have for decades consumed few, if any, foods containing B12. As a result, their body stores of the vitamin have gradually diminished. Forty-seven of 78 adult vegans had levels below 200 pg/mL; when they chewed a 100-microgram B12 tablet once a week, their levels promptly rose to normal. Some vegans depend on sea vegetables such as arame, wakame and some varieties of kombu, or on algae. The B12 in these, although absorbed, may not be fully bio-available. A study published in the May 2003 Townsend Letter for Doctors and Patients (TLfDP) provided strong evidence that a commonly consumed seaweed known as nori does, in fact, contain bio-available forms of B12. But whether that substance is available to large numbers of vegans and whether its use would lift serum B12 levels enough is not known. And in a recent study from India published in Neurology India, most of the B12-deficient people studied were "vegetarian".

Vitamin B12 Repletion Succeeds Despite Risk Factors

In his study, Dr Dommisse does not reveal, or need to know, the proportion of his patients who experience other AD risks: for example, how many are thyroid deficient, drink fluoridated water, have extensive dental amalgams, take

Ibuprofen (some non-steroidal anti-inflammatory drugs, along with their famous multitude of adverse effects, may lower AD risk by about 50 per cent), etc. He doesn't consider the number of patients who have been exposed occupationally to electro-magnetic fields, which promote the formation of beta amyloid, a protein common in the brains of Alzheimer's patients. Nor does he present any numbers showing high content of aluminum in AD patients' brains from consumption of aluminum treated drinking water and/or from consuming a variety of everyday sources (refer also to the combination of containing aluminum with fluoridated water in J. G. Hattersley, J Appl Nutr 2005). Dommisse's study also doesn't consider the extent of use of melatonin as a brain antioxidant to counteract accumulation of free-radical-creating iron, nor does it look at potentially brain-damaging homocysteine in patients' serum.

Dr Dommisse prefers vitamin B12 as hydroxycobalamin. A person taking cyanocobalamin from a pharmacy might over a long period of years accumulate a toxic amount of cyanide and possibly damage vision. (Many patients in Britain using cyanocobalamin from a pharmacy did go blind due to damage to the optic nerve, and few physicians knew of it [letter 9/3/05 from Wayne Martin, TLfDP contributing writer, Fairhope, Alabama]).

Also, methylcobalamin, widely used in Japan, is increasingly popular in the USA, in part because it is reputed to be better absorbed. **Certain OTC sublingual preparations provide methylcobalamin, which in the absence of alcoholic and other liver damage is the only version of B12 that penetrates the blood-brain barrier (the choroid plexus) and reaches the brain and spinal cord (**Sherry A. Rogers, MD, *Detoxify or Die*, p. 270).

In *Preventive Medicine Update* (May 1995), Jeffrey Bland, PhD, reported: "Five clinician/subscribers have sent clinical case histories. On high-dose folate/B12/B6, homocysteine levels dropped... Also, a number of reports have come... about patients suffering with presenile dementia or Alzheimer-like symptoms. On IM B12, their MMA (methyl malonic acid levels, an indication of deficient B12 status) came down to normal range, and their walking, balance, gait, and perception improved. I've had reports of individuals who had not been able to read, start to read, people who had not been able to look at video screens now comfortable looking at them, and two reports of people who had movement dystonia, who after vitamin B12 therapy were able to get in the car and be transported without fear of being unable to accommodate passing scenery. So there is a wide range of very important clinical outcomes from improving folate/B12/B6 status, cutting across neurological and arterial functional status."113

Because the typical environmentally ill (EI) patient often has low zinc, B6 and thyroid hormone levels, low chromium glucose tolerance factor (GTF) and high candida/low bifidus as well as low B12, to suggest B12 alone as the sole treatment would not be consistent with holistic thinking, suggested Dr Earl Conroy.114 So, if high-dose B12 doesn't do the trick pretty fast, consider additional measures, guided by the results of the ION Panel test, if given.115

Little research has been published about B12 therapy for AD and other neurological diseases, Dommisse writes, because of the "...heavy pharmaceutical industry sponsorship of research and teaching in medical schools. Career-track academicians have realised that, if they want to fulfill their ambitions, they have to eschew nutritional research for that of drugs."3 The volume of published research on drugs to fight Alzheimer's disease is overwhelming. To continue their careers, the authors of these studies have a powerful financial incentive to report positive results, whether truthful or not. Yet, the best that Alzheimer's drugs can do is to conceal the symptoms for a while. The underlying cause—notably, deficiency of vitamin B12—continues to worsen unabated.

In that vein, I offer a caution on cholesterol-lowering statin drugs. Ten years ago I exposed these high-margin products, along with others, as potential patient-killers.116 Big Pharma is waking up belatedly to that fact. Now pharmaceutical companies would like to promote statins as preventives for Alzheimer's dementia. Drug therapies reported up to September 2005 showed no success (*Acres USA*, September 2005). A recent CBS Evening News report quoted a University of California medical professor who is conducting new government-funded (not drug-maker-funded) research on statin drugs' effect on Alzheimer's-susceptible patients: "We have people who have lost thinking ability so rapidly that within the course of a couple of months they went from being heads of major divisions of companies to not being able to balance a checkbook and being fired from their companies."117, 118

Vitamin B12 therapy still faces a very real obstacle: Codex regulations, likely to go into effect in the near future, will prohibit any dose of any vitamin to be sold at much above the Recommended Dietary Allowance (RDA). For B12, the adult RDA dosage is only 3.02 micrograms. Millions will suffer and die from this terrible B12-preventable disease if that Codex regulation is enforced. And a new bill in Congress, cited in *TLfDP* (November 2005) by David Musnick, MD, will reinforce Codex restrictions.

One final note. It is important to cultivate a positive, optimistic outlook to maximise the prospect for success against such mental diseases. One should avoid the scenario in which the attending physician tells the cancer patient, "You have x months to live". Classes and groups for Alzheimer's-fearing people often move in that direction. In fact, I have heard of no AD awareness classes that even mention vitamin B12 therapy in a positive way. Physicians, whose medical education omitted or put a negative spin on anything using nutrition, may be behind the structure of many such classes. What a different story it might be if instruction and awareness emphasised the usually successful measures brought out in this article. One has to ask: why don't doctors at least tell the public about this seemingly magical therapy, which is available to all at trivial cost? Just think about that, and the answer becomes obvious.

About the Author:

Joseph G. Hattersley has an MA in Economics from the University of California-Berkeley. In 1953, he completed all

requirements for a PhD except the dissertation. In 1976, at age 54, a seeming nutritional miracle launched his career of writing on a wide range of health topics.

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