

## EDITOR'S NOTEBOOK/Bernard Rimland, Ph.D.

**Vitamin B6 in autism: the safety issue**

There is no biological treatment for autism which is more strongly supported in the scientific literature than the use of high dosage vitamin B6 (preferably given along with normal supplements of magnesium). Eighteen studies have been published since 1965, showing conclusively that high dose vitamin B6 confers many benefits to about half of all the autistic children and adults on whom it has been tried. While B6/magnesium is not a cure, it has often made a big, worthwhile difference.

Included among the 18 studies are 11 double-blind, placebo-crossover experiments, 8 experiments in which abnormal substances appearing in the urine of autistic children have been normalized by the B6, other studies in which brain waves have been normalized, and a wide range of other improvements: 18 consecutive studies showing megadose B6 to be effective and no studies failing to show that megadose B6 is effective. No drug even comes close.

None of the studies of B6 in autism have reported any significant adverse effects, nor would any significant adverse effects be expected. I conducted an intensive analysis of the literature on B6 safety before embarking on my first study of B6 in the late 1960s. A review published in 1966 by the American Academy of Pediatrics confirmed my own conclusion: "To date there has been no report of deleterious effects associated with daily oral ingestion of large doses of vitamin B6 (0.2 to 1.0 grams per day)."

Tens of thousand of people, including thousands of autistic children and adults, took large doses throughout the '60s, '70s, and beginning '80s with no reported signs of any adverse effects. However, in 1983, a paper by Schaumburg et al. reported significant, though not permanent nor life-threatening side effects in 7 patients who had been taking 2,000 mg to 6,000 mg per day of B6. The side effects, peripheral neuropathy, were numbness and tingling in the hands and feet—the sensation one gets when one's hand or foot "falls asleep." The foot numbness in some cases interfered with walking. These patients were not taking magnesium, the other B vitamins, nor any of the other nutrients that should be taken if one is taking large amounts of B6. It is at least possible that the adverse reactions were due not to B6 "toxicity" but to deficiencies of magnesium and the other B vitamins induced by taking large amounts of B6.

It should be noted that the Schaumburg study covered only 7 patients and had 7 authors from several major medical centers throughout the United States. It would seem that a national search had been done to locate these patients, once the first case had been identified.

In the ensuing years, a few other patients have been reported in the literature who showed similar symptoms of peripheral neuropathy.

In my own experience, covering almost 30 years, and many thousands of autistic

children and adults, I have, to the best of my knowledge, encountered only four cases of peripheral neuropathy. In these cases the numbness in the hands and feet was noticed by the parents, who reported that the child would: a) shake the hands as though to try to get the circulation back, b) have difficulty in picking up objects, such as bits of food, or c) have difficulty walking, because of numbness in the soles of the feet. When the

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B6 was discontinued, or the dosage was markedly reduced, these symptoms went away very quickly and completely.

It seems that some individuals are exceedingly sensitive to larger than normal amounts of B6. These cases are very few and far between, and discontinuing the B6 seems in all cases thus far to resolve the problem.

If you contrast these findings with the findings reported on a daily basis on the drugs that are used for autism, it becomes instantly clear that the B6 is immeasurably safer. There has never been a death or serious illness associated with ingestion of even very large amounts of B6. Deaths and permanent disability from prescription drugs are commonplace.

My own son, now 40, has been taking about 1 gram per day of B6 (along with 400 mg of magnesium, and other nutrients) for some 30 years. If there is a healthier person in North America, I would be surprised. Mark's only health problem to date occurred in his early 20s, when a dentist found one small cavity in one tooth.

Despite the extraordinary safety of B6, I have been told, over the years, by thousands of parents, that their physicians have warned them against giving their children high doses of B6, because of the supposed risks involved. It is unfortunately very typical of most of the medical establishment (which of course makes its money by prescribing drugs) to denigrate and exaggerate the dangers of taking nutritional supplements.

A case in point: recently the national news media gave heavy coverage to a paper from the University of Michigan which warned the public against the dangers of taking vitamin B6. This report was given national television coverage, and we received a number of alarmed inquiries in our office from parents who were frightened by the warning, "B6 is toxic!" (See Letters.)

When I read the study, I was truly appalled. The authors, from the University of Michigan Medical School, were supposedly investigating the value of vitamin B6 in the treatment of carpal tunnel syndrome (a pain-

ful malady of the wrists, which has become very common in recent years, and is usually considered a repetitive motion injury). The conventional treatment is surgery, which is often ineffective, as well as being disfiguring, expensive, and painful. There have been a number of well-documented reports that high doses of vitamin B6 successfully treat carpal tunnel syndrome, in the majority of cases, so that over a six-week period people who were scheduled for surgery no longer need such drastic treatment.

The Michigan researchers had not given even one milligram of B6 to even one of their subjects (not patients)! Their warning was based primarily on the 1983 Schaumburg report. Further, they had not included even a single subject who actually had carpal tunnel syndrome! They did blood and nerve conduction studies on people who were "potentially" at risk for carpal tunnel syndrome, but did not in fact have carpal tunnel syndrome. The anti-vitamin B6 bias in the report is very evident when you read, in their review of research, that "several" studies have reported B6 to be effective in treating carpal tunnel syndrome, while "numerous" reports have failed to confirm the finding. If you look at the actual references in their study, you will see that there are 12 favorable reports, and only 7 negative reports. So, to them, "several" equals 12 and "numerous" equals 7!

The University of Michigan study, with its highly publicized and totally irrelevant conclusions, is certainly one of the worst and most appalling studies I have ever read. Alan Gaby, M.D., author of *The Doctor's Guide to Vitamin B6*, referred to it as a "disgusting" display of bias, and I certainly agree with that assessment.

Nothing is perfectly safe, but B6 is exceptionally safe, particularly when compared to the alternative, drugs, which are infinitely more likely to cause severe illness, injury, and even death.

An autistic person will improve on high dosage B6 *only* if that person's body *requires* extra B6. The benefits of B6 often start within a few days. If no benefits are seen in three to four weeks (in about 50 percent of cases), or if any signs of peripheral neuropathy appear (very rare), stop giving the B6.

A 1995 paper by Ellis and McCully reported that elderly patients who had been taking 100-300 mg per day of B6 for some years experienced only 27% the risk of heart disease, and among those who died of a heart attack, the average age at death was 84.5—eight years longer life than control group patients from the local area. In a 1993 study of epileptic newborns, Pietz found 300 mg of B6/kg/day—18 times the dosage used in autism—to be superior to seizure drugs. And B6, in amounts as high as 50 grams per day, is used as an antidote for victims of certain poisons. Is vitamin B6 toxic? Hardly!

*For a list of references and information on the use of vitamin B6 in autism, send a large self-addressed, stamped envelope marked "B6."*