Clinical and biological effects of high doses of vitamin B6 and magnesium on autistic children.

Presented in this report must be regarded as "preliminary," and caution is advised in its interpretation and application.

Some of the information included in this article is as follows:

- Putative indications include prepubertal depression, school phobia, anorexia nervosa, explosive-aggressive behavior, learning disabilities, attention deficit disorder (hyperactivity), Tourette's syndrome, autism, and the Lesch-Nyhan syndrome.
- The drugs reviewed include imipramine, amitryptiline, lithium, piracetam, propranolol, tryptophan, clonidine, pyridoxine, and fenfluramine.

This article reports the behavioral, biochemical, and electrophysiological effects of four therapeutic crossed-sequential double-blind trials with 60 autistic children: Trial A—vitamin B6 plus magnesium/magnesium; Trial B—vitamin B6 plus magnesium; Trial C—magnesium; and Trial D—vitamin B6. Therapeutic effects were controlled using behavior rating scales, urinary excretion of homovanillic acid (HVA), and evoked potential (EP) recordings. The behavioral improvement observed with the combination vitamin B6 and magnesium developed a conditioning phenomenon and the fenfluramine-sensitive children showed an enhancement of the Cz evoked response amplitude. Results are discussed with reference to behavior modifications observed during treatment.

New developments in pediatric psychopharmacology.

This is a report on recent developments in pediatric psychopharmacology: new drugs and new applications for established drugs. The drugs reviewed include imipramine, amitryptiline, lithium, piracetam, propranolol, tryptophan, clonidine, pyridoxine, and fenfluramine. Putative indications include presurgical depression, school phobia, anorexia nervosa, explosive-aggressive behavior, learning disabilities, attention deficit disorder (hyperactivity), Tourette's syndrome, autism, and the Lesch-Nyhan syndrome. Some of the information presented in this report must be regarded as "preliminary," and caution is advised in its interpretation and application.
Pyridoxine (vitamin B6) dependency is a rare autosomal-recessive disorder that causes a severe seizure disorder. 

A 15-year follow-up of a boy with pyridoxine-dependent seizures with autism, breath holding, and severe mental retardation. Clinical improvement with worsening on termination of the trial was observed in 15 children. Thirteen responders and 8 non-responders were re-tested in a 2-week, crossover, double-blind trial, and the responses to the open trial were confirmed. Biochemical data analysis revealed that a significant decrease in urinary homovanillic acid (HVA) levels was observed during B6-Mg administration. During B6-Mg treatment, middle latency evoked potentials exhibited a significant increase of amplitude.

Effects of pyridoxine and magnesium on autistic symptoms—initial observations. 

Effects of high doses of vitamin B6 on autistic children: a double-blind crossover study.

High dose vitamin B6 and magnesium in treating autism: response to study by Findling et al. 

Critique of [quot]Efficacy of vitamin B6 and magnesium in the treatment of autism[quot].
placebo-controlled study.
Comment In: J Autism Dev Disord. 1998 Dec;28(6):581-2 Findling RL; Maxwell K; Scotese-Wojtila L; Huang J; Yamashita T; Wiznitzer M

Resumo: Several reports have described salutary effects such as decreased physical aggression and improved social responsiveness being
associated with the administration of high doses of pyridoxine and magnesium (HDPM) in open-labeled and controlled studies of patients
with autism. Despite this fact, this intervention remains controversial. A 10-week double-blind, placebo-controlled trial was undertaken to
examine both the efficacy and safety of HDPM in autism. Twelve patients were enrolled, and 10 patients (mean age 6 years 3 months)
were able to complete the study. HDPM at an average dose of 638.9 mg of pyridoxine and 216.3 mg of magnesium oxide was ineffective
in ameliorating autistic behaviors as assessed by the Children's Psychiatric Rating Scale (CPRS), the Clinical Global Impression Scale, and
the NIMH Global Obsessive Compulsive Scale. Furthermore, no clinically significant side effects were noted during HDPM administration. A
trend for a transient change on the CPRS was found that was possibly due to a placebo response. This study raises doubts about the
clinical effectiveness of HDPM in autistic disorder.

Efficacy of vitamin B6 and magnesium in the treatment of autism: a methodology review and summary of outcomes.

Resumo: Pauling's orthomolecular hypothesis appeared in 1968, stating that some forms of mental illness and disease are related to
biochemical errors in the body. Vitamin therapy is believed to be a means of compensating for such errors. There have been few empirical
studies on vitamin therapy in individuals with autism. This article presents a critical analysis of the 12 published studies located through an
extensive computerized search. Studies were systematically evaluated to provide an objective assessment of empirical evidence
supporting the efficacy of vitamin treatment. The majority of studies report a favorable response to vitamin treatment. However,
interpretation of these positive findings needs to be tempered because of methodological shortcomings inherent in many of the studies.
For example, a number of studies employed imprecise outcome measures, were based on small samples and possible repeat use of the
same subjects in more than one study, did not adjust for regression effects in measuring improvement, and omitted collecting long-term
follow-up data. Recommendations are offered to assist researchers in designing future investigations.

Brief report: lack of response in an autistic population to a low dose clinical trial of pyridoxine plus magnesium.
J Autism Dev Disord;23(1):193-9, 1993 Mar. Tolbert L; Haigler T; Waits MM; Dennis T