

Abstract

Neuro Endocrinol Lett. 2002 Aug;23(4):303-8.

Treatment of autism spectrum children with thiamine tetrahydrofurfuryl disulfide: a pilot study.

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OBJECTIVES: In a Pilot Study, the clinical and biochemical effects of thiamine tetrahydrofurfuryl disulfide (TTFD) on autistic spectrum children were investigated.

SUBJECTS AND METHODS: Ten children were studied. Diagnosis was confirmed through the use of form E2, a computer assessed symptom score. For practical reasons, TTFD was administered twice daily for two months in the form of rectal suppositories, each containing 50 mg of TTFD. Symptomatic responses were determined through the use of the computer assessed Autism Treatment Evaluation Checklist (ATEC) forms. The erythrocyte transketolase (TKA) and thiamine pyrophosphate effect (TPPE), were measured at outset and on completion of the study to document intracellular thiamine deficiency. Urines from patients were examined at outset, after 30 days and after 60 days of treatment and the concentrations of SH-reactive metals, total protein, sulfate, sulfite, thiosulfate and thiocyanate were determined. The concentrations of metals in hair were also determined.

RESULTS: At the beginning of the study thiamine deficiency was observed in 3 out of the 10 patients. Out of 10 patients, 6 had initial urine samples containing arsenic in greater concentration than healthy controls. Traces of mercury were seen in urines from all of these autistic children. Following administration of TTFD an increase in cadmium was seen in 2 children and in lead in one child. Nickel was increased in the urine of one patient during treatment. Sulfur metabolites in urine did not differ from those measured in healthy children.

CONCLUSIONS: Thiamine tetrahydrofurfuryl disulfide appears to have a beneficial clinical effect on some autistic children, since 8 of the 10 children improved clinically. We obtained evidence of an association of this increasingly occurring disease with presence of urinary SH-reactive metals, arsenic in particular.

PMID: 12195231