

Abstract

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Improvement of neurobehavioral disorders in children supplemented with magnesium-vitamin B6. II. Pervasive developmental disorder-autism.

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BACKGROUND: Previous studies reported positive results with the use of Mg-vitamin B6 in autism. Despite these reports, this intervention remains controversial.

OBJECTIVE AND METHODS: In order to study relationships between changes in clinical symptoms and biological parameters, 33 children (mean age: 4 [1-10] years old) with clinical symptoms of pervasive developmental disorder or autism (PDD, as defined in DSM-IV) were followed for at least 6 months; another group of 36 children (same age) devoided of any known pathology was used as control. All PDD children received a magnesium-vit B6 (Mg-B6) regimen (6 mg/kg/d Mg and 0.6 mg/kg/d vit B6). Intraerythrocyte Mg²⁺ (Erc-Mg), serum Mg²⁺ (s-Mg) and blood ionized Ca²⁺ (i-Ca) were measured before and after treatment. Clinical symptoms of PDD were scored (0 to 4).

RESULTS: In contrast to s-Mg or i-Ca, PDD children exhibited significantly lower Erc-Mg values than controls (2.17 +/- 0.4 versus 2.73 +/- 0.23 mmol/L; 16/33). The Mg-B6 regimen led to an increase in Erc-Mg values (2.42 +/- 0.41 (after) versus 2.17 +/- 0.4 mmol/l (before), 11/17) and this supplementation improved PDD symptoms in 23/33 children (p < 0.0001) with no adverse effects: social interactions (23/33), communication (24/33), stereotyped restricted behavior (18/33), and abnormal/delayed functioning (17/33); 15/33 children were improved in the first three groups of symptoms. When the Mg-B6 treatment was stopped, PDD symptoms reappeared in few weeks. A statistically significant relationship was found in Erc-Mg values from children before treatment and their mothers.

CONCLUSION: In conclusion, this study suggests that the behavioral improvement observed with the combination vitamin B6-magnesium in PDD/autism is associated with concomitant modifications of Erc-Mg values.

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