

# EXPERIENCES OF MAGNESIUM THERAPY FOR THE TREATMENT OF CHILDREN WITH AUTISM SPECTRUM DISORDERS IN THE NATIONAL CENTER OF WELLBEING, DEVELOPMENT AND REHABILITATION OF CHILDREN, TIRANA, ALBANIA



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## INTRODUCTION

The "Center of Developmental and pediatric Neurorehabilitation" (CDN) in Biel, Switzerland, has been working in close cooperation with the NCWDRCH since July 2005.

Due to the cooperation between the two centers it was possible to treat behavioral problems in children with autism for the first time in Albania with magnesium therapy provided by CDN.

## AIM

There are many challenges of managing this experience. We want to evaluate and discuss the medical, therapeutic, advantages and disadvantages of this experience.

## BACKGROUND

There is evidence that magnesium can improve the behavior in children with ADHD, but there are little experiences in children with autism. Magnesium is an essential mineral for the functioning of the cells in the body including brain and muscles cells. Magnesium deficiency is rare but some studies suggest that children with autism have low magnesium levels.

Two small, but well controlled studies showed no effects, of combined therapy, with magnesium and Vitamin B 6(1). One larger, but not well controlled study showed positive and significant behavioral effects of combined vitamin B6 and magnesium but not magnesium or vitamin B6 alone (2). Additional studies showed that magnesium and vitamin B6 had significant positive effects on behavior in children with autism, but children in these studies were receiving supplements(3). In 2005, Dr. Rimland and Dr. Stephen Edelson, performed a large-scale study on 5780 autistic individuals, including both children and adults, and found that B6 and magnesium treatment helped 47 percent of test subjects.(4)

## METHODS

From December 2010 a total of 10 children (four girls and six boys aged from three to six years) with infantile autism received magnesium therapy in a form of hydrogen aspartic for four weeks. The dosage was 5 mmol or 7.5 mmol a day. All the other treatments remained unchanged during the magnesium therapy and also all the children received no other supplements.

Four children were hospitalized during the treatment and the others were receiving daily the specific therapy for autism. In Albania there is not possible to have lab test for the level of magnesium in blood. The multidisciplinary group( pediatrician, psychologist, social worker) measured the children's behavior using the autism behavior checklist (from Krug, Arick and Almond); . The checklist was performed to the children once before the supplement therapy started and again at the end of four weeks. The checklist was administered to the parents.

## RESULTS

Most aspects of behavior remained unchanged. The multidisciplinary group found that therapy with magnesium decreased hyperactivity and improved concentration. (7 out of 10 children)

More than half the children had less severe temper tantrums and less frequent minor tantrums. (six out of ten children)

Also there was a decrease in head banging and self hurting especially in one child. There was no improvement in speech.

There was worsening of the behavioral symptoms after the therapy was stopped. Most of the children restarted receiving magnesium therapy.

There was no report of side effects.

## CONCLUSION

Magnesium therapy can improve behavior in children with autism.

Now doctors and parents of the children with autism in Albania can try magnesium as a complementary therapy.

In Albania more children with ASD will receive magnesium in the future.

## CASE REPORT

E. H., male; born June 5th 2005; was diagnosed with ASD when he was 3 years old. Since then he receives special education, speech therapy, occupational therapy in NCGDRCH.

Because the baby was in transversal position he was born by caesarian after a normal pregnancy . The boy has had two episodes of seizures (at six months and at 9 months old). He has received valproic acid ten months after the last seizure and is off it since then. The global motor function is normal according to his chronological age. The language development: has never spoken and does not speak a word. Doesn't understand and follow even the simplest commands. Cognition: 12-15 months old. Social development: doesn't look in the eye when you talk to him, doesn't make friends, doesn't respond to his name, doesn't eat, dress, go to toilet by himself etc

The autism behavior checklist was administered to his mother when they were hospitalized in the center in December 2010. At the time the boy was receiving no other medication or supplement.

The mother reported severe temper tantrums and frequent minor tantrums, the child was often frightened and very anxious, destructive and was hurting himself by head banging and scratching to blood his ears and tummy (checklist Item number 23, 35, 43, 54). He started receiving received magnesium therapy in a form of hydrogen aspartic for four weeks. The dosage was 5 mmol a day. At the end of four weeks the checklist was administered to the mother again. The items above of the checklist were scored by the mother from an A to a C with a significant improvement especially on item 35. The child was no more hurting or scratching himself and the mother was very pleased with it she didn't want to stop the magnesium therapy. There was a worsening of behavior after the therapy stopped.

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