Integrative Autism Treatment: Foretelling Medicine's Future

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Abstract *The author has found that integrating nutritional and biologically-based therapies in the treatment of autism has markedly improved outcomes. A case of autism spectrum disorder is presented, highlighting how the assessment and treatment of yeast-related abnormalities, glutathione depletion, and mercury toxicity led to normalization (i.e., recovery) of the patient. Treatments discussed in the article include: (1) a sugar-free, gluten-free, casein free diet; (2) anti-fungal and anti-viral medications; (3) chelation therapy; (4) nutrients for glutathione support; (5) transdermal glutathione and carnosine; and (6) an oral metal excretion program of dimercaptosuccinic acid and alpha-lipoic acid. The author also proposes his ideas on the future treatment and prevention of autism spectrum disorder.*

Introduction

As a conventional family doctor, I had many times felt helpless when attempting to assist patients with chronic illness. To see the continued suffering of patients and not have enough tools to make a significant difference, despite years of medical training, was frustrating and in need of correction. Nowhere was this felt as intensely as in the management of autism and related conditions. Thankfully, after more years of continuing education and application of principles not taught in medical school, I now gain immense satisfaction in offering services to autistic children and their families, given that I have determined, as have other complementary and alternative medicine (CAM) doctors, that a difference can and has been made.

I needed to conceptualize autism as a disease template from which to explain many of our modern illnesses, and apply to it the methods I was using to address other chronic conditions with a toxic-immune component. I needed to learn that some CAM practitioners consider many cases of autism as a unique form of chronic mercury poisoning, and treat it accordingly. I needed to know about glutathione, glutamate levels, gluten and casein metabolites, and carnosine. I learned that to dramatically improve the life (and remove the label) of an autistic child has such a profound impact on not only the patient, but also the patient's family and community. Applying principles of integrative medicine, including nutrition-based therapies, extends the positive impact to all levels of society, given that improvements in the condition relieve many burdens. The approach is integrative, comprehensive, and can be complicated. Any management scheme should never be more burdensome to patient and/or family than the illness itself. I've seen firsthand that when parents apply these therapies, it is often met with favourable outcomes and major benefits.

Case Study

I first met Nathan in December of 2002, when he was 3 years of age. He had a diagnosis of autism spectrum disorder (ASD). His parents – attentive, knowledgeable, supportive and

cooperative – gave a clear history of regression in speech development at age 18 months, following DPTP and influenza vaccines that were administered 2 weeks apart. He went from an 8 to 10 single word vocabulary to nothing. He had self-stimulatory behaviour, was striking his father repeatedly, showed hyperactivity, and used grunting for language at the time of his visit. Nathan's parents requested an unconventional medical approach to their son's illness, and consented to the use of complementary therapies administered through my office.

Nathan was born uneventfully by C-section. He had many ear infections, and had received 4 courses of antibiotics. He also had multiple bouts of bronchitis and cradle cap. He regularly had loose stools.

His informed parents had already started probiotics, essential fatty acids, B vitamins and other supplements prior to his visit with me. At the first visit we interactively outlined a plan for management, with a focus on biological, nutrition-based medicine. The first phase was to assess and correct yeast-related abnormalities. A gluten-free, casein-free, sugar-free diet was prescribed. There is research demonstrating symptomatic improvement when a gluten-free, casein-free diet is implemented.[1] Simultaneously, anti-fungal (fluconazole) and anti-viral (imunovir) medications were prescribed. Anti-viral medications are usually helpful since immune system derangements[2] and viral infection at a very early developmental age (either direct infection or due to some alteration of the immune response of the mother and/or offspring)[3] are associated with ASD. Anti-fungal treatments have been demonstrated to help with both the gastrointestinal and cognitive symptoms of ASD.[3]

When bowel function improved, we moved to phase two, which included heavy metal toxicity assessment and treatment. In March 2003, Nathan's parents consented to a provocative urine toxic elements test, which showed very elevated mercury excretion. The biochemical abnormalities of mercury toxicity and ASD are similar in that both conditions are marked by low glutathione and sulfate levels, abnormal antioxidant enzyme activity, mitochondrial dysfunctions, and disruptions of purine and pyrimidine metabolism.[4] In addition, ASD and mercury display similar impairments in the brain and central nervous system that include: (1) dysfunction of the amygdala, hippocampus, basal ganglia, and cerebral cortex; (2) cerebellar neuronal destruction; (3) brainstem abnormalities; (4) demyelination; and (5) abnormal brain electrical patterns.[5] Nathan's parents consented to chelation therapy, and he received 8 treatments in 11 months. He was also prescribed nutrients for glutathione support since the organic acid test indicated low levels. In a recent study participants with ASD had significantly decreased levels of plasma reduced glutathione ($p<0.001$) and significantly increased plasma oxidized glutathione ($p<0.001$) relative to controls.[6] The increased plasma oxidized glutathione levels among the ASD participants was believed to be the result of increased demands for reduced glutathione as an antioxidant.

Nathan was given another short course of fluconazole. By May 2003, language development was proceeding, with less prompting and more spontaneity, and toilet training was better with much improved stool consistency. The parents reported "dramatic changes," including increased play interaction. By June 2003, his Intensive Behavioral Intervention therapists could not believe the improvement in speech and general development. Transdermal glutathione and carnosine, a nutrient with reported benefits for speech development in ASD,[7] were prescribed. Checks on fungal activity continued, with anti-fungal treatment being provided when required. In September 2003, his parents noted major improvements in language acquisition, and a repeat urine toxic metals test showed almost normal levels of mercury. He was switched to an oral metal excretion program exclusively, which included dimercaptosuccinic acid and alpha-lipoic acid. The dimercaptosuccinic acid/alpha-lipoic acid combination was prescribed 3 days with an 11 day break. A regimen of zinc, selenium, vitamin C, methylsulfonylmethane, taurine and vitamin E was also prescribed during the 11 days off. This 2-week cycle lasted 12 months. In December 2003, a psychological assessment was performed by a developmental disabilities specialist who noted "considerable improvement in his ASD characteristics" and that "he is much less likely to

display hyperactivity."

Routine follow-up testing for cell counts, mineral levels, liver and kidney function, and metals occurred from the outset, with continued surveillance through 2004 during the supplementation program. By November 2004, Nathan no longer qualified for government funding, since ASD was "no longer a diagnosis in writing" according to his parents.

Subsequently, at age six, Nathan was fully integrated in a regular school and not requiring any extra assistance. He communicated normally and easily, and his humorous, interactive personality fully was apparent. There were not any signs of ASD, cognitive or social. In fact, his teachers at his new school were not even aware that a diagnosis of ASD once applied to him. Medically, the diagnosis was removed. Currently, at age 11, he is neurotypical – without any features of ASD.

Predictions: Future Prevention and Medical Treatment of ASD

I am optimistic that:

• Physicians will manage ASD using nutrition, not psychiatry;

• Management will focus on environmental contamination and causation;

• Management will be directed toward meeting the brain's nutrient requirements, from both a treatment and protection perspective;

• Food intolerances, genetically pre-determined or not, will be widely recognized as a contributor to cerebral dysfunction and will be routinely tested;

• Individualized diets will be prescribed, based on genetic testing;

• Physicians will have been trained in medical school about the toxic effects of mercury and other heavy metals;

• Tests will be used to assess toxin levels, and metal mobilization and excretion therapies (e.g., chelation), will be widely available in the offices of physicians;

• Nutrients like glutathione will be tested and used as a standard part of treatment;

• Artificial neurotoxins, such as monosodium glutamate and aspartame, will no longer enter a child's diet;

• Fermentation as an underlying process ASD, as well as chronic diseases, will be recognized, such that patients suffering from the health hazards of increased fungal activity will be treated, rather than dismissed;

• Vaccine injury will be better studied, reported and disclosed, and genetic information will be available to concerned parents about the risk of specific vaccines to their child based on a prior understanding of individual gene-based susceptibility;

• Physicians will understand the nuances of generationally accumulated toxicity, as well as the susceptibility of the developing foetus to contaminants transmitted through the placenta;

• Essential fatty acid blood levels will be assessed prenatally and when indicated;

• Essential fatty acids will be routinely supplemented as an aspect of good prenatal care, for the benefit of mother and foetus;

• Physicians will understand that early diagnosis leads to earlier application of nutrition-based therapies and biological medicine.

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