

Editor's Notebook: Bernard Rimland, Ph.D.**Puberty, aggression, and seizures**

Puberty in autistic children is often accompanied by the onset of seizures or an increase in seizures and/or aggressive behavior. These problems have been addressed in many previous issues of the *Autism Research Review International*. The back issues of the ARRI, volumes 1-18, 1987 through 2004, may now be accessed, along with an extensive index, free of charge at www.ARInewsletter.com or may be purchased from ARI (see subscription form). Readers are urged to refer to our previously published articles on puberty, seizures and aggression, as well as on self-injurious behavior (SIB) for much more comprehensive discussions than can be provided here.

Our immediate purpose in this article is to provide an overview of the issues, as well as to discuss several previously undiscussed, or underdiscussed, ideas that merit your attention.

A great many cases of aggression or self-injurious behavior have been found to be the child's response to physical pain. In one case a child's decades-long severe SIB was found to be caused by a chronic painful mastoid infection. In recent years, late-onset autism, which comprises the autism epidemic, has often been characterized by severe abdominal pain, frequently accompanied by constipation, diarrhea or both. Gastroenterologists Andrew Wakefield, Tim Buie, Arthur Krigsman and other speakers at our Defeat Autism Now! (DAN!) Conferences have addressed these issues in considerable detail. (See webcast announcement in this issue.)

A pediatric gastroenterologist may perform a colonoscopy to determine if a patient needs treatment. A highly effective treatment protocol has been developed by Tim Buie, M.D. and colleagues at the Massachusetts General Hospital and Harvard Medical School. A consortium of other medical schools in various parts of the U.S., known as the Autism Treatment Network, has been formed to implement this treatment approach for the GI issues of autism.

Migraine headaches and the pain of hypersensitive hearing have also been found to cause aggression or self-injurious behavior in many individuals. Food allergies are a frequent cause of migraines and seizures. Keeping a food diary may be helpful in identifying foods which cause migraines and seizures. Avoiding common allergenic foods has been found to be helpful.

Joseph Egger et al., in a 1989 study, found that 40 of 45 patients with migraines and epilepsy reported improvement on what Egger referred to as an "oligoantigenic" (few foods) diet. The foods found to be most troublesome (most important to eliminate from the patient's diet) were cow's milk and

cheese, citrus fruits, wheat, artificial food colorings and flavorings, eggs, tomato, pork and chocolate.

Hypersensitive hearing can be painful and often is exacerbated in puberty. Covering the ears when certain sounds are heard is an obvious clue. Since hypersensitive hearing is a common sign of magnesium deficiency, simply supplementing the diet with magnesium should be the first priority. Irritability may also be a sign of magnesium deficiency. I suggest giving 4mg of magnesium per pound of

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body weight (e.g. 400mg of magnesium for a 100-pound person) per day. Magnesium citrate and magnesium glycinate are the two best absorbed forms of magnesium. In purchasing magnesium supplements, be sure you read the label correctly. Look for the number of milligrams of *elemental* magnesium in the tablet or capsule. The magnesium should be given with a B-vitamin supplement to help the body absorb the magnesium properly.

If magnesium supplements do not correct the hypersensitive hearing in a few days, ear plugs, purchased at drug stores or hardware stores, may be helpful. Berard-type auditory integration training (AIT) is often helpful for hypersensitive hearing, and many other problems common in autistic children and adolescents. (I do not recommend the Tomatis type of auditory training. The Tomatis approach does not have the extensive research validation which provides support for the Berard method. For a review on the research on Berard auditory integration training go to www.SAIT.org.)

The increase in seizures which accompanies puberty is well known, but not at all understood. Puberty has been found to increase the need for vitamin B6 in both in boys and girls. In my opinion the top priority in responding to aggression, self-injurious behavior and seizures in adolescence should be to increase the dosage of B6 and magnesium in those already on B6 and magnesium, and to initiate B6 and magnesium treatment in those not already on it. The same is true for dimethylglycine (DMG), another very safe and effective nutritional supplement. In a number of cases, patients with multiple se-

vere seizures while on four or five anti-convulsant drugs have experienced complete relief from seizures upon being given B6 and magnesium and/or DMG.

In his book *Nerves in Collision*, Walter Alvarez, M.D., "the Sherlock Holmes of medicine," reports that "nonconvulsive epilepsy" (seen only on an EEG) may cause fits of sudden explosive aggression. He observed that remorse was common in such cases, while rare in violently aggressive persons with normal EEGs. Small maintenance doses of the anti-convulsant drug Dilantin were found to be helpful in such cases.

Although there are many newer anticonvulsant drugs (see Parent Ratings of the Effectiveness of Biomedical Interventions in Autism, at www.AutismResearchInstitute.com), Dilantin may nevertheless be especially useful in autism. In our first study on B6 in autism, the six children who responded best to vitamin B6 had, as it turned out, also been taking Dilantin.

High-dose vitamin B6 and magnesium, which has been reported as helpful in autism in 21 of 22 studies to date, is even more likely to be helpful in adolescents and adults than in children. B6 and magnesium are immeasurably safer than any of the drugs used to treat autism, including the anticonvulsant drugs. See "Vitamin B6 in autism: The safety issue" (ARRI 10/3/3). See also "What is the right 'dosage' for B6, DMG, and other nutrients useful in autism?" (ARRI 11/4/3). To summarize our findings on the dosage of B6 and of DMG: every individual is unique, and the "right dose" varies enormously from person to person. Since these nutrients are very safe, trial and error is a valid approach. On average, 8mg of vitamin B6 per pound of body weight per day seems to work well for many, but some individuals need much more, and some need much less. Read the article! DMG is classified by the FDA as a food. No toxicity has ever been reported. Read the article!

A 2004 study at Emory University reported that patients with uncontrolled epilepsy had low blood levels of DHA, an essential fatty acid. Studies of autistic children also frequently find essential fatty acid (EFA) deficiencies. The moral is clear: if the kids won't eat salmon, give them EFA supplements!

If other approaches fail, consider medical marijuana, which has proven to be a lifesaver, literally, for many desperate families. See ARRI 12/2/7, 16/2/7, 16/3/7, and 17/1/2,3,4 for discussions. Also see the new book *Jeffrey's Journey*, mentioned on page 4 of this issue.

In this brief overview I could only touch on various topics which have been covered in depth in previous issues of the ARRI, which are now readily available.