

Autism Research Review

I N T E R N A T I O N A L

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Reviewing biomedical and educational research in the field of autism and related disorders

IVIG therapy tested in autism, Landau-Kleffner syndrome

In IVIG therapy, patients receive concentrated solutions of immunoglobulin G, one of several antibodies the immune system uses to defend against infection. IVIG therapy is a common treatment for patients with immune and nervous system disorders.

Sudhir Gupta and colleagues have recently reported marked improvement in five of 10 autistic children receiving IVIG therapy, at a dosage of 400 mg/kg monthly,

for at least six months (see ARRI 10/3). A new study, which used 200-400 mg/kg dosages every six weeks, concluded that the treatment may benefit only a small subset of autistic individuals—although that subset may improve dramatically.

Audrius Plioplys administered IVIG therapy to 10 autistic children, ranging in age from 4 to 17. All of the children had demonstrated immune system abnormalities (a finding common in autistic children). Most of the children received four treatments.

“Only in one child was there a very significant improvement,” Plioplys reports, “with almost total amelioration of autistic symptoms over the time period of the four infusions.” This child, who was nonverbal and exhibited severe autistic symptoms before therapy, began speaking in short sentences and became very sociable following treatment. “The special education program in which he was enrolled,” Plioplys says, “reevaluated him as no longer being autistic.” When the child’s treatments ended, due to the family’s inability to pay for continued IVIG therapy, he regressed completely.

Of the nine other subjects, Plioplys reports, five showed no improvement at all, and four improved only slightly. Parents of

the children who improved slightly did not opt to continue the therapy.

Plioplys concludes, “Given a positive response rate of only 10% in this study, along with the high economic costs of the immunologic evaluations and the intravenous immunoglobulin treatments, the use of intravenous immunoglobulin to treat autistic children should be undertaken only with great caution, and only under formal research protocols.”

LKS responds to therapy

Recently, ARRI reported a case study from Lebanon of a young girl with Landau-Kleffner Syndrome (LKS) successfully treated with IVIG therapy (see ARRI 11/1). A new report, this time from doctors in Belgium, adds evidence that this therapy can benefit children with LKS.

LKS is characterized by subtle seizures (often detectable only with sleep EEGs), and by normal development followed by the loss of receptive and then expressive language. Children with LKS sometimes are labeled as autistic because their symptoms can include aloofness, aggression, unusual responses to stimuli, monotonic voices, compulsions, and other autistic behaviors. Steroid drugs can alleviate some LKS symptoms but have significant side effects, and

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Tourette’s treated with nicotine patch

Nearly a dozen studies over the past decade indicate that nicotine, either by itself or in conjunction with drugs, reduces the symptoms of Tourette’s syndrome. This genetically-influenced condition, sometimes co-occurring with autism, causes verbal and muscle tics, obsessive-compulsive behaviors, and a wide range of other behavioral problems.

Among recent studies on nicotine treatment for Tourette’s:

—P. R. Sanberg and colleagues, reviewing both human and animal studies on the effects of nicotine, conclude that “administration of nicotine (either 2 mg nicotine gum or 7 mg transdermal nicotine patch) potentiates the therapeutic properties of neuroleptics [drugs such as Haldol] in treating Tourette’s syndrome patients.” In addition, the researchers say, there is evidence that a single nicotine patch can be effective for several days. “These findings,” the researchers say, “suggest that transdermal nicotine could serve as an effective adjunct to neuroleptic therapy for Tourette’s Syndrome.”

—An earlier study by Sanberg, A. A. Silver, and colleagues found that the application of a single 7 mg transdermal nicotine patch for 24 hours produced significant reductions in tics, with effects lasting between one and two weeks.

—S. M. Dursun and M. A. Reveley tested transdermal nicotine patches on four Tourette’s patients whose symptoms were not controlled with Haldol, and on one patient

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Secretin reduces autistic symptoms

Many autistic children have digestive problems, often chronic. The problems are diagnosed by a procedure called gastrointestinal endoscopy, in which an instrument is inserted in the gastrointestinal tract under general anesthesia, to permit visual examination of the tract. In some cases a pancreatic hormone, secretin, is infused to permit the physician to determine if adequate amounts of digestive substances are released.

Although the secretin is used solely for diagnostic purposes, a number of physicians, encouraged by the observations of Victoria Beck, the mother of a three-year-old boy who showed excellent response

to a secretin infusion, have begun to report confirmatory findings. They report that secretin-infused autistic children show improvement not only in their gastrointestinal symptoms, but also in their social and communicative behavior and in other characteristics of autism.

There is mounting interest in conducting further investigations to extend these observations and explore the underlying mechanisms.

The use of secretin as a therapy for autism will be discussed at the Defeat Autism Now! (DAN!) Conference in October 1998. (See page 4.) ARRI will also report developments in this research.