

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

Immune system therapy reduces autistic symptoms

Growing evidence links autism to immune system abnormalities, and new research indicates that treatments aimed at improving immune system function can reduce autistic symptoms.

Sudhir Gupta and colleagues at the University of California at Irvine recently treated ten autistic children with intravenous immune globulin (IVIG), a therapy used to treat autoimmune disorders and immune deficiency syndromes. The children were treated at four week intervals, for at least six months. Psychiatrists and therapists unaware of the treatment were asked to rate the children before and after therapy.

The researchers report that "IVIG infusion resulted in marked improvement in a number of autistic characteristics, including eye contact, calmer behavior, speech, [and] echolalia." The earliest effects, they say, are calmer behavior and improved eye contact, while "spontaneous speech improvement appears to develop last." In several cases, children's symptoms worsened when IVIG therapy was discontinued after six months; these patients improved, the researchers say, when IVIG therapy was reinstated.

Gupta and colleagues performed extensive immunological evaluations on their

autistic subjects before beginning IVIG therapy, and say that "a marked abnormality of immune parameters was observed in children with autism when compared to age-matched controls. This included abnormalities of various lymphocyte subsets and serum levels of various immunoglobulin classes and subclasses." Several other researchers have identified marked immune abnormalities in autistic individuals (see ARRI 1/2, 2/2, 7/1, 7/4, 8/2, 8/4).

Gupta et al. are planning a double-blind, placebo controlled multicenter study to further investigate the effects of IVIG therapy, and to determine which patients are most likely to respond to the treatment.

Editor's note: Dr. Gupta is one of the

founding members of the Defeat Autism Now! (DAN!) group sponsored by the Autism Research Institute. The purpose of DAN! is to bring together leading scientists and physicians so they can share knowledge about state-of-the-art treatments for autism.

"Brief report: dysregulated immune system in children with autism: beneficial effects of intravenous immune globulin on autistic characteristics," Sudhir Gupta, Sudeepa Aggarwal, and Cathy Heads; *Journal of Autism and Developmental Disorders*, Vol. 26, No. 4, 1996, pp. 439-452. Address: Sudhir Gupta, Medical Sciences I, C-240, University of California, Irvine, CA 92717-4069.

—See related article below—

Tourette's, OCD tentatively linked to strep; new treatments tested

It's a startling theory: that Tourette syndrome, which sometimes co-occurs with autism, and obsessive-compulsive disorder (OCD) may be caused by the same virus that causes strep throat. But initial research both supports the theory and points to possible treatments for both Tourette's and OCD.

Susan Swedo, head of the behavioral pediatrics section at the National Institute of Mental Health, says that "as many as one-third to one-fourth of people with childhood onset of obsessive-compulsive disorder and tic disorders may have their condition mediated through infection." She and fellow researchers at NIMH are currently investigating whether symptoms of Tourette syndrome or obsessive-compulsive disorder can be reduced by intravenous immunoglobulin (IVIG) therapy or plasmapheresis (which removes almost all antibodies to strep).

Swedo recently told the *Brown University Child and Adolescent Behavior Letter* that nine children have received one of the two treatments or a placebo. "Two children with sham IVIG showed no response," Edward Susman reported in the newsletter, "but three who received IVIG showed a 30 percent reduction in OCD symptoms and a 42 percent decrease in movement disorders when they were measured two to four weeks after cessation of therapy. Plasmapheresis

resulted in a 52 percent reduction in OCD symptoms and an almost 75 percent reduction in movements." Remissions lasted an average of 42 weeks.

Swedo and colleagues are testing additional children with Tourette syndrome or OCD whose symptoms began prior to puberty and abruptly started or worsened around the time of a confirmed strep infection. In addition, the researchers are studying the possibility that penicillin treatment may be a useful therapy for Tourette's or OCD in children who develop symptoms after strep infection. Although initial tests of penicillin have been positive, Swedo cautions doctors against trying this treatment until further research determines whether or not it is effective.

Strep infections have already been linked to rheumatic fever and to Sydenham's chorea, a disorder characterized by slurred speech and involuntary movements of the head, face, limbs, and fingers. Swedo believes some individuals may be genetically prone to develop Tourette's or OCD following strep infection, just as some families appear to be genetically prone to develop rheumatic fever.

"Researchers find link between tic disorders and strep virus," Edward Susman; *Brown University Child and Adolescent Behavior Letter*, Vol. 11, No. 12, December 1995, pp. 3-4.

Clomipramine for autistic kids: harmful, ineffective?

The antidepressant clomipramine (Anafranil) is widely prescribed for autistic individuals, largely because of several studies suggesting its efficacy. A new study, however, suggests that the drug may do more harm than good when given to young autistic children.

Laura Sanchez et al. tested clomipramine for five weeks on eight autistic children between the ages of three and eight, using individually calibrated "optimal" dosages ranging from 50 to 175 mg per day. One child dropped out of the study after suffering severe side effects; of the remaining seven, the researchers say, "one child improved moderately and six were rated as worse" on an evaluation called the Clinical Global Consensus Ratings.

In addition, the researchers say, "un- toward effects [of the drug] were serious and

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