

Biomedical Update:

More concerns about popular contraceptive

The long-term contraceptive drug Norplant, which is implanted under the skin of the arm, is frequently used for developmentally disabled women because it eliminates the need for a daily pill. A recent report by neurologist Alan Hirsh, however (see ARRI 9/4), tentatively linked Norplant to an increased risk of headaches, dizziness, and depression. Now a new report by Karen Dineen Wagner adds to concerns that Norplant may cause serious behavioral changes in some women.

Two years ago, Wagner and her colleagues reported on two patients who developed depression and panic disorder following Norplant implantation. Afterward, Wagner says, she was contacted by five women who had developed similar symptoms after receiving the implants.

"These women who had no prior psychiatric history developed major depression within 1 to 3 months after Norplant insertion," Wagner reports. "The depression worsened over time and in all cases resolved within 1 to 2 months after Norplant removal. There was no recurrence of depression after 7 to 8 months in four cases available for follow-up."

In addition to their depressive symptoms, Wagner says, two of the women developed obsessive-compulsive behaviors, and one became agoraphobic. These symptoms also disappeared after the implants were removed.

"These cases," Wagner says, "provide further support for the association between Norplant and major depression, as well as a broad spectrum of anxiety disorders." Noting that reports about Norplant to date are anecdotal, she stresses the need for carefully designed research into Norplant's possible effects on behavior and emotions.

"Major depression and anxiety disorders associated with Norplant," Karen Dineen Wagner; *Journal of Clinical Psychiatry*, 57:4, April 1996, pp. 152-157. Address: Karen Dineen Wagner, University of Texas Medical Branch, Department of Psychiatry and Behavioral Sciences, 301 University, Galveston, TX 77555-0425.

Genetic defect linked to autism may be rare

Several years ago, researchers in Belgium tentatively linked a genetic defect—a mutation causing a deficiency in the enzyme adenylosuccinate lyase (ADSL)—to some cases of autism (see ARRI 1/2, 1987). New research, while not ruling out ADSL deficiency as a cause of some cases of autism, suggests that the ADSL gene mutation is rare in autistic individuals.

ADSL deficiency was first reported by Georges Van den Berghe and colleagues in 1984, when the Belgian researchers identified the condition in three children with

severe autism and retardation. In 1992, the researchers reported that tests of a family involved in their original study revealed that three affected siblings were homozygous for a mutation in the ADSL gene. The point mutation results in an unstable form of the enzyme.

These findings led researchers in France and Canada to perform genetic testing on 119 patients with autism to see if any exhibited the defective gene. "None of the patients tested were found to have this mutation," Edward Fon et al. report. They conclude that "mutations in the ADSL gene represent a distinctly uncommon cause of autism."

"Adenylosuccinate lyase (ADSL) and infantile autism: absence of previously reported point mutation," Edward A. Fon, Julie Samazin, Catherine Meunier, Julio Alarcia, Michael I. Shevell, Anne Philippe, Marion Leboyer, and Guy A. Rouleau; *American Journal of Medical Genetics*, 60, pp. 554-557, 1995. Address: Guy A. Rouleau, Centre for Research in Neuroscience, Montreal General Hospital, 1650 Cedar Ave., Montreal, Quebec, Canada H3G 1A4.

Yet another term for "autistic-like" children?

The *Diagnostic and Statistical Manual of Mental Disorders* (DSM), which codifies the American Psychiatric Association's labels for different disorders, already lists autism, Asperger's syndrome, pervasive developmental disorder (PDD), and pervasive developmental disorder not otherwise specified (PDD-NOS). But R-J. Van der Gaag and colleagues are calling for yet another label, "multiple complex developmental disorder" (MCDD), suggesting it as a separate subcategory of PDD-NOS.

"This proposed entry," *The Brown University Child and Adolescent Behavior Letter* comments, "would be distinguished from autism on symptomatology and on developmental and environmental background variables." Van der Gaag's research suggests, they say, that "children with MCDD and autistic disorder [are] significantly different on symptom factors, including psychotic thinking and anxiety, aggression, deficient interaction and communication and stereotypes and rigid behavior."

"Should MCDD be added to the diagnostic manual?," *The Brown University Child and Adolescent Behavior Letter*, March 1996, Vol. 12, No. 3, p. 7; citing "A controlled multivariate chart review of multiple complex developmental disorder," R-J. Van der Gaag et al., *Journal of the American Academy of Child and Adolescent Psychiatry*, 34(8): 1096-1106, 1995.

Neurofeedback: retraining the brains of autistic children?

Neurofeedback—an approach being used to "retrain" the brains of children with attention deficit disorder—may also be helpful for high-functioning autistic children, according to a case report by Arthur Sichel and colleagues.

Using colorful computer games and EEG feedback, children undergoing neurofeedback training actually learn to alter their brainwave patterns. M. Barry Serman, a professor of psychiatry at UCLA, says the approach can also help control some forms of epilepsy. "[Neurofeedback] requires equipment, skilled application and time," Serman says, "but when properly applied it can alter the function of the brain."

Sichel et al. report using neurofeedback successfully to reduce autistic symptoms in an eight-year-old boy diagnosed as mildly autistic. After three sessions, they say, the boy began speaking more and became more affectionate with his siblings. "Over the course of training," they say, "his behavior continued to change. He began attending to and reacting to others [and] started making eye contact."

After participating in 31 sessions, the researchers report, the boy "imitates his older brother and plays with his brother, his sister, and a friend. He no longer tires easily and no longer has trouble falling or staying asleep. His headaches are significantly reduced, as is his tendency to appear anxious and worried. He is much less shy and withdrawn." In addition, they say, the boy engages in imaginative play, initiates conversations, and spends less time engaging in repetitive activities. EEG readings obtained after the first 31 sessions of neurotherapy also were less abnormal.

"These results," the researchers say, "are suggestive that neurotherapy can be an effective treatment for some of the symptoms of mild autism."

While this is the first report ARRI has received pertaining to the use of neurofeedback in the treatment of autism, neurofeedback therapy for attention deficit disorder and epilepsy is a fairly well established technique, and is offered at numerous clinics around the United States.

"Positive outcome with neurofeedback treatment in a case of mild autism," Arthur G. Sichel, Lester G. Fehmi, and David M. Goldstein; *Journal of Neurotherapy*, Summer 1995. Address not listed.

LATE NEWS: We have just learned that the August 4th issue of *Parade* magazine will have a major article on autism. We have not seen the article but know it will feature some art works of Mark Rimland, my 40-year-old autistic-savant artist son. *Parade*, which appears as a Sunday newspaper supplement, has the world's largest circulation: 34 million copies per week. Mark's note cards are available from ARI at \$8.00 for a set of 10 different scenes (add \$2.00 postage and handling, CA residents add 7.5% tax). A full-color brochure depicting his cards and poster prints will be included. —BR