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Drug lowers opioid levels

Impressive early results seen with naltrexone

Autistic children's aloofness, self-injurious behaviors, odd "self-stimming" activities and other abnormalities may stem from an excess of opioids, natural opium-like substances produced by the brain.

Researchers began studying the link between opioids and autism after observing that many symptoms of autism—including insensitivity to pain, social withdrawal, irritability, mood changes and stereotyped behaviors—also occur in opium addicts, as well as in the offspring of animals given opium-like drugs during pregnancy.

Further evidence for a relationship between opioids and autism was found by Bowling Green State University researcher Jaak Panksepp and colleagues, who reported in 1979 that young animals given small doses of opiates have less desire for companionship and physical contact, higher pain thresholds, and learning abnormalities.

Panksepp believes that opioids play an important role in bonding, affection and socialization. He theorizes that hugging and other forms of affection cause an opioid "high" in normal humans and animals, while autistic children find such contact less rewarding—or even aversive—because of permanently high opioid levels.

Because some opioid-caused symptoms in animals can be reversed by administering naltrexone, a drug which blocks the opiate receptors on brain cells, researchers have speculated that the drug might have a similar effect on the behavior problems of autistic children. Several research teams have conducted preliminary tests with the drug, and report encouraging results.

At a recent conference of the National Institute of Mental Health, NYU Medical School researcher Magda Campbell reported the findings of a study in which she and her colleagues administered naltrexone to eight autistic children. Six of the children exhibited better social behavior, improved eye contact and socialization; they also showed less aggressive and stereotyped behaviors.

Campbell also reported that negative effects were "mild and transient." She noted that careful testing had revealed no signs of impaired liver function, a symptom seen in earlier studies in which high doses of naltrexone were administered to non-retarded elderly and obese patients.

Barbara Herman and Kathryn Hammock of Children's Hospital in Washington, D.C., gave naltrexone to five autistic children and found that while the children's speech did not improve, they did exhibit less self-stimulatory behavior, make eye contact more frequently, and respond more positively to hugging.

Herman and Hammock then tested naltrexone on three self- injurious children, and found that the drug caused dramatic improvement. One severely self-injurious child virtually stopped hurting himself, while the self-injurious behaviors of the

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Enzyme deficiency linked to autism; free test available

Researchers at the University of California at San Diego and in Belgium have identified a subtype of autism which is caused by an enzyme abnormality, and have developed a simple dipstick test for the disorder.

Harry Gruber and Paul Laikind, of the UCSD Medical School, have been investigating the problems caused by a genetic deficiency of the enzyme adenylosuccinate lyase. In patients with this disorder, purines (nitrogen-containing compounds) build up in the body. The chemical disorder was initially detected by Belgian scientist Georges Van Den Berghe, who has been working closely with the UCSD researchers.

Gruber and Laikind have developed a simple, accurate urine test to identify this purine build-up in autistic individuals with lyase enzyme deficiency. While only a small percentage of autistic individuals have a lyase enzyme abnormality, Gruber and Laikind believe the discovery of this disorder may lead to the identification of different defects causing other subtypes of autism.

The researchers are experimenting with a "promising" nutritional substance for treating the lyase enzyme deficiency, and believe that in the future it may be possible to treat the disorder through gene therapy.

The Institute for Child Behavior Research is assisting Gruber and Laikind in their research by helping to distribute free dipsticks to test for lyase enzyme deficiency as well as several other enzyme abnormalities. Hundreds of dipsticks have already been collected from parents and professionals in 12 different countries including Kuwait, Turkey, Venezuela and New Zealand.

Those who would like to have autistic children tested for lyase enzyme deficiency may obtain the dipsticks by sending a self-addressed, stamped envelope to the Institute for Child Behavior Research, 4182 Adams Avenue, San Diego, California 92116.

The simple test involves placing the dipstick into a urine sample, letting it air dry, and sending the dipstick to a laboratory in California where it will be analyzed. There is no charge for this procedure. Parents whose children test positive for an enzyme deficiency will routinely be notified of test results; negative results will be reported if a self-addressed stamped envelope or postcard is enclosed with the returned dipstick.