

Study implicates milk proteins in autism

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ous to the bell-ringing above them. This struck us as interesting because many mothers of autistic children comment that they seem at times to be totally deaf—they talk to their children and they just don't seem to hear them."

The researchers note that the highest dose of β -CM7 caused the most abnormal behavior, with a moderate dose causing moderate to strong responses and the low dose causing only a weak response. Again, naloxone blocked the response to β -CM7, with the exception of reduced reaction to sounds.

"The present study shows clearly that administration of β -CM7 produces remarkable behavioral disorders in rats," the researchers say. They conclude that the findings of this research, and their data showing that β -CM7 crosses the blood-brain barrier and affects brain cells, "suggest that β -CM7 may play a role in the pathogenesis of schizophrenia and autism."

Gluten implicated as well

A number of studies also point to gluten, a protein found in wheat and several other grains, as a culprit in autism. A new study by Paul Whiteley et al. adds weight to these studies, by showing that a gluten-free diet can improve the behavior of autistic children.

Whiteley et al. placed 22 autistic or autistic-spectrum children on gluten-free diets, and monitored their behavior changes over a five-month period. "Results suggested that participants on a gluten-free diet showed an improvement on a number of behavioral measures," they report, with 16 of the 22 participants showing some benefit. In particular,

parents reported that their children showed improvements in communication, attention, and concentration, and reductions in aggressive and self-injurious behavior. Increases in affection, coordination, motor skills, self-awareness, calmness, and sleeping behavior also were reported. When gluten was reintroduced, some parents reported increased hyperactivity, impulsiveness, stereotyped behaviors, and aggression, and worsening of language and communication skills.

The findings of Whiteley et al. are consistent with earlier research by Karl Reichelt (see ARRI 9/4, 7/1), who reported that gluten-free and/or casein-free diets reduced stereotyped behavior and improved social behavior and communication in autistic individuals.

" β -casomorphin induces Fos-like immunoreactivity in discrete brain regions relevant to schizophrenia and autism," Zhongjie Sun, J. Robert Cade, Melvin J. Fregly, and R. Malcolm Privette, *Autism*, Vol. 3, No. 1, 1999, pp. 67-83. Address: Robert Cade, Departments of Medicine and Physiology, P.O. Box 100204, University of Florida, Gainesville, FL 32610-0204.

—and—

"A peptide found in schizophrenia and autism causes behavioral changes in rats, *Autism*, Vol. 3, No. 1, 1999, pp. 85-95. See address above.

—and—

"A gluten-free diet as an intervention for autism and associated spectrum disorders: preliminary findings," *Autism*, Vol. 3, No. 1, 1999, pp. 45-65. Address: Paul Whiteley, Autism Research Unit, School of Health Sciences, University of Sunderland, Sunderland SR2 7EE, UK.

—and—

"UF researchers cite possible link between autism, schizophrenia and diet," University of Florida press release, March 15, 1999.

Risperidone: what's the correct dosage?

The relatively new drug risperidone (Risperdal) appears to be safer and more effective than many other drugs used to treat autism. However, many doctors have little experience using this drug with autistic patients. As a result, we receive many calls from parents and professionals asking for dosage information.

To date, the studies ARRI has summarized

suggest that the proper dosage of risperidone for autistic individuals is significantly lower than the dosage used for individuals with schizophrenia (for whom the drug is most commonly prescribed). The table below lists the dosages used in the studies summarized in the ARRI over the past four years. In each of these studies, risperidone was found to have positive effects on autistic symptoms.

STUDY/AUTHOR	PARTICIPANTS	DOSAGE
McDougle et al. (1998)	Autistic/PDD adults	Average dosage 2.9 mg daily
Nicolson et al. (1998)	Autistic children	Average dosage 1.3 mg daily, range 1 to 2.5 mg daily
Horrigan & Barnhill (1997)	Autistic children, teens and adults	Average dosage 0.5 mg, twice daily
Fisman & Steele (1996)	Autistic/PDD children and teens	Range 0.75 to 1.5 mg daily
McDougle et al. (1995)	Autistic/PDD adults	Range 2 to 8 mg daily

Are classical autism, depression linked?

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The researchers studied 25 families with more than one autistic child (to increase the chances of identifying genetic influences), and 30 families of children with Down syndrome (to control for the stresses involved in raising a disabled child). They found that parents of autistic children had a significantly higher lifetime rate of major depressive disorder and social phobia than the control parents, while no significant group differences were seen for other psychiatric diagnoses. Furthermore, they say, almost all of the autistic children's parents with a history of depression experienced their first depressive episodes before the births of their autistic children. Grandparents, aunts, and uncles in the autism families also had a markedly higher rate of depression or anxiety than the control families.

Piven and Palmer note that histories of depression in the autism families were not linked to the presence of other autistic-like behaviors in family members. This suggests, they say, that the depression seen in these families was not a secondary effect of subclinical autistic symptoms.

Editor's Note: My book *Infantile Autism (1964) discusses the autism-depression link extensively.*

"Autism: new data suggest a new hypothesis," G. Robert DeLong, *Neurology*, Vol. 52, No. 5, March 1999, pp. 911-916. Address: G. Robert DeLong, Division of Pediatric Neurology, Box 3936, Duke University Medical Center, Durham, NC 27710.

—and—

"Psychiatric disorder and the broad autism phenotype: evidence from a family study of multiple-incidence autism families," Joseph Piven and Pat Palmer, *American Journal of Psychiatry*, Vol. 156, No. 4, April 1999, pp. 557-563. Address: Joseph Piven, Psychiatry Research, Rm. 1-293, Medical Education Building, University of Iowa College of Medicine, Iowa City, IA 52242-1000.

ARI maintains a list of schools and other resources for autistic persons. If you provide a service that should be on our referral list, send a self-addressed, stamped envelope with a request for our "Services/School Referral List Questionnaire."

ARI also has a list of nutritionally-oriented physicians who use drugs only as a last resort with their autistic patients, and who are interested in the DAN! approach to diagnosis and treatment. If you are a physician who should be on that list, send a self-addressed, stamped envelope with a request for our "Doctor Referral List Questionnaire."