

# Biomedical Update:

## More evidence connects autism, food allergies

Findings from a new Italian study support earlier findings that food allergies, and in particular allergies to milk, play a role in autism. (See ARRI 9/4, 9/3, 7/1, 1/2.)

S. Lucarelli and colleagues put 36 autistic children on an eight-week diet that eliminated cow's milk. In cases where skin tests revealed allergies to other foods, these foods were eliminated as well. Children were evaluated, before and after the diet, using the Behavior Summarized Evaluation (BSE). "A significant improvement in behavioral disturbances was achieved in our patients in five of the seven groups on the BSE scale," the researchers report.

Children who improved during the initial diet then participated in a double-blind, placebo-controlled challenge with the food or foods that had been restricted on the diet. Lucarelli and colleagues say that children participating in this challenge for 15 days worsened in three of seven BSE categories. "The failure of other symptoms to appear after the oral challenge," they say, "could be put down to the brevity of the observation period which is inadequate [to reveal any] involvement of delayed immune mechanisms."

The researchers also measured antibody levels in their subjects during unrestricted diets, and found "high levels of IgA antigen specific antibodies for casein, lactalbumin and B-lactoglobulin and IgG and IgM for casein." Levels of these antibodies, they say, "were significantly higher than those of a control group which consisted of 20 healthy children."

The researchers conclude that "the hypothesis that food allergy can worsen the clinical pattern in infantile autism appears provocative," and should be investigated thoroughly using larger patient populations.

"Food allergy and infantile autism," S. Lucarelli, T. Frediani, A. M. Zingoni, F. Ferruzzi, O. Giardini, F. Quintieri, M. Barbato, P. D'Eufemia, and E. Cardì; *Panminerva Medica*, Vol. 37, No. 3, September 1995. Address: S. Lucarelli, Department of Paediatrics, University of Rome "La Sapienza," Viale Regina Elena 324, 00161 Rome, Italy.

## Rett syndrome treated with carnitine

European researchers report identifying a deficiency of the amino acid carnitine in the plasma of a five-year-old girl with Rett syndrome. According to E. Plöchl et al., carnitine supplementation resulted in increases in physical activity, and improved muscle tone, sleep patterns, and communication. "A wash-out for one month and resumption of therapy confirmed the efficacy of this regimen," they say.

The researchers say the cause of the girl's low plasma levels of carnitine is un-

known, and that levels of carnitine in her muscles were normal.

Rett syndrome is a progressive developmental disorder seen almost exclusively in girls. In its early stages, Rett often produces autistic-like symptoms including aloofness and self-stimulating behaviors. Other symptoms, seen at varying stages of the disorder, include frequent hand-washing or hand-wringing motions, scoliosis, seizures, breathing difficulties, feeding problems, small head circumference, and shakiness of the limbs and torso.

E. Plöchl, W. Sperl, B. Wermuth, and J. P. Colombo, "Carnitine deficiency and carnitine therapy in a patient with Rett syndrome," *Klin. Pädiatr.*, 208, 1996, pp. 129-134. Address: E. Plöchl, Klinische Genetik am Kinderspital der Landeskrankenanstalten Salzburg, Müllner Hauptstraße 48, A-5020, Salzburg.

## Fenfluramine linked to often-fatal lung disorder

A new report adds to questions about the safety of fenfluramine, a serotonin-altering appetite suppressant sometimes used to treat autism. (The drug is commonly sold under the brand name Pondimin.)

Scientists in Canada and Europe report that fenfluramine and dexfenfluramine (a closely related drug currently being marketed under the brand name Redux as a diet aid) dramatically increase the incidence of a rare and often fatal lung disease called pulmonary hypertension. According to a *Science News* report, Lucien Abenhaim et al. found that "people who had taken fenfluramine-derived drugs for more than three months had 30 times the risk of the ailment than those who had never taken the drugs." Even those who took the drugs for less than three months doubled their risk of developing pulmonary hypertension.

Researchers have also voiced concerns about fenfluramine's effects on brain cells, noting that both fenfluramine and dexfenfluramine are linked to brain damage in animals. "This [neurotoxicity] has been observed in every animal species tested to date from mice to baboons," neurologist George Ricaurte of Johns Hopkins told *American Medical News*. Ricaurte was one of 22 experts in neurology who lobbied unsuccessfully to delay FDA acceptance of dexfenfluramine as an appetite suppressant.

Fenfluramine was first used to treat autistic children in 1982. Since then, numerous studies have found the drug to be of little or no benefit. However, it is still prescribed for a number of individuals with autism and pervasive developmental disorder.

"Weight loss pills linked to lung ailment," S. Sternberg, *Science News*, Vol. 150, August 31, 1996.

—and—

"There's a weight-loss drug, but it's no magic bullet," Wayne Heam, *American Medical News*, Vol. 39, No. 21, June 3, 1996.

## News magazine investigation uncovers pharmacy errors

Parents of autistic children taking multiple medications generally assume that pharmacies will notify them of any drug interactions. According to a recent *U.S. News & World Report* investigation, however, more than half of all pharmacists failed to warn consumers when patients were prescribed drugs that are dangerous when mixed.

Working with researchers at Georgetown University, the magazine had physicians write prescriptions for three drug combinations that could interact to cause significant or even fatal reactions, and then attempted to have the prescriptions filled. The results:

—One third of pharmacists failed to warn consumers against mixing the antihistamine Hismanal with the antifungal drug Nizoral. While the combination can cause cardiac arrest, the magazine reports that "32 percent of the pharmacists dispensed the potentially lethal combination with no verbal warning, and half of those filled it with only a vague written caution." In some cases, *U.S. News & World Report* says, pharmacists told patients to take Hismanal on an empty stomach, and Nizoral with food, but failed to tell them that combining the drugs could be fatal.

—Only four of 17 pharmacists warned patients about the interaction between oral contraceptives and Rimactane, a drug used to treat tuberculosis. Combining the drugs can render the contraceptives ineffective. [Editor's note: we have heard from parents whose pharmacies failed to warn them about combining birth control pills with certain antibiotics or with the anticonvulsant Tegretol, combinations that also tend to make the drugs less effective.]

—Only three of 61 pharmacists verbally cautioned patients against taking the blood pressure drugs Vasotec and Dyazide together, even though the combination can cause dizziness or, in some cases, heart failure and death. Only one pharmacy declined to fill the prescriptions.

*U.S. News & World Report* blames pharmacists' mistakes largely on financial pressures from HMOs, which have slashed reimbursement rates and are forcing pharmacists to work longer hours and hire poorly qualified technicians. The magazine advises patients to obtain package inserts with all prescriptions and, when possible, to check computer web sites on drug interactions. Among the sites they recommend:

—The Institute for Safe Medical Practices (<http://www.geohealthweb.com/ISMP/>)

—Healthtouch (<http://www.healthtouch.com/>)

—Pharmaceutical Information Network (<http://www.pharminfo.com/>).

"Danger at the drugstore," Susan Headden, *U.S. News & World Report*, August 26, 1996.