Specific Carbohydrate Diet reduces autistic symptoms

A small pilot study supports the many parent reports (see ARRI 18/3) indicating that the Specific Carbohydrate Diet (SCD) benefits some autistic children who do not respond fully to the gluten-free/casein-free (GFCF) diet.

Jeffrey Trelka and Brian Hooker placed two young autistic girls first on the GFCF diet, and then on the SCD. The researchers report that while the children improved on both diets, they exhibited "significantly less behavioral and physiological problems" during SCD treatment than during the GFCF intervention. Behavioral changes seen in the children following the SCD diet included better sleep, better eye contact, fewer tantrums, better speech, greater awareness, improved imitation skills, less self-injury and aggression, and improved sociability. Physiological benefits included elimination of food-induced eczema, reduced abdominal distension, solid stools, elimination of "panda eyes" (dark circles under the eyes), and improved body odor. No adverse physical or behavioral changes were seen in either child during the SCD diet.

Trelka says, "In no way are we suggesting that a GF/CF diet is unhelpful. Our study clearly shows the opposite is true. We are claiming, though, that in contrasting each diet's contribution to change in these girls, i.e., improved behavior and improved physiology, the SCD is clearly more effective."

The SCD eliminates nearly all starches and most sugars, allowing only monosaccharides (carbohydrates that have a molecular structure small enough for them to be readily transported from the intestine into the blood stream without requiring extensive breakdown). The diet, originally developed by pediatrician Sidney Haas, has recently received a large amount of publicity due to the work of biochemist Elaine Gottschall, whose daughter's severe digestive problems responded dramatically to the diet.

According to Gottschall, when the intestines are not functioning correctly, large carbohydrate molecules cannot be broken down and transported out of the digestive system. The result, she says, is that these molecules, rather than entering the bloodstream, remain in the intestines and serve as a source of food for bacteria and fungi. The resulting overgrowth of these bacteria and fungi causes increased acidity, which further damages the intestines; increases production of bacterial toxins and metabolic byproducts of fermentation; and may cause some normally harmless bacteria to mutate into pathological forms. In addition, Gottschall says, excess mucus production triggered by damage to the intestines further inhibits the proper digestion and absorption of nutrients.

The purpose of the SCD is to "starve" undesirable intestinal bacteria and fungi by removing the large carbohydrate molecules that provide food for them. The diet consists primarily of meat, fish, eggs, fruits and vegetables, certain dairy products (including goat's milk yogurt), and nuts and seeds.

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"Specific Carbohydrate Dietary Trial: Understanding the effectiveness of a specific carbohydrate dietary intervention in autistic children," Jeffrey Allen Trelka and Brian S. Hooker, in press.

—and—

"The gut, brain, diet connection—The Specific Carbohydrate Diet," presentation at the DAN! Conference, Los Angeles, October 2004.

—and—

Breaking the Vicious Cycle, Elaine Gottschall, Kirkton Press, Baltimore, Ontario, 2004.

Study finds link between autism, brain inflammation

(continued from page 1)

observed in the cerebella of autistic patients do not occur exclusively during prenatal development but appear to involve an ongoing, chronic neuroinflammatory process that involves both microglia and astroglia." This process, they say, continues even into the late stages of life, as it was detected in patients of all ages.

Vargas et al. also analyzed cerebrospinal fluid from six autistic children and found elevated levels of cytokines in these samples, further supporting their hypothesis that autism is associated with inflammatory processes in the central nervous system.

The researchers say it is not clear whether the brain inflammation that they detected contributes to autism, or results from efforts by the brain to stop some other destructive process. They speculate that it may some day be possible to use evidence of inflammation in cerebrospinal fluid as a diagnostic marker for autism. Currently, they are conducting research to see if a genetic vulnerability plays some role in the immune processes identified in their study.

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"Neuroglial activation and neuroinflammation in the brain of patients with autism," Diana L. Vargas, Caterina Nascimbene, Chitra Krishnan, Andrew W. Zimmerman, and Carlos A. Pardo, *Annals of Neurology*, November 15, 2004 (epub). Address: Carlos A. Pardo, Department of Neurology, Johns Hopkins University School of Medicine, Pathology 627, 600 N. Wolfe Street, Baltimore, MD 21287, cpardo@jhmi.edu.

—and—

"Brain inflammation found in autism," news release, *Annals of Neurology*, Nov. 2004.

Memo shows Merck was warned about vaccine mercury levels in 1991

According to a memo leaked by an anonymous whistle-blower, at least one drug manufacturer knew more than a decade ago that vaccines containing thimerosal could expose children to levels of mercury far higher than guidelines for maximum daily mercury exposure allowed.

The memo, given to attorney James A. Moody, was written in 1991 by vaccinologist Maurice R. Hilleman to the president of Merck's vaccine division. (The recipient, Gordon Douglas, is now a consultant for the Vaccine Research Center at the National Institutes of Health.) In it, Hilleman says, "If 8 doses of thimerosal-containing vaccine were given in the first 6 months of life (3 DPT, 2 HIB, and 3 Hepatitis B) the 200 micrograms of mercury given, say to an average size of 12 lbs., would be about 87X the Swedish daily allowance of 2.3 micrograms of mercury for a baby of that size." (Thimerosal, a preservative used in many childhood vaccines at the time, is approximately 50 percent mercury.)

Hilleman went on to say, "When viewed in this way, the mercury load appears rather large." He recommended that thimerosal be eliminated whenever possible, "especially where use in infants and young children is anticipated."

The memo was sent eight years before the Food and Drug Administration conducted an assessment that concluded that children's exposure to mercury through vaccines could exceed EPA guidelines for methylmercury (there are no guidelines for ethylmercury, the form of mercury contained in thimerosal). That same year, the U.S. Public Health Service called on drug manufacturers to voluntarily remove thimerosal from future vaccines.

Moody says the memo is the "first hard evidence that the companies knew—or at least Merck knew—that the children were getting significantly more mercury" than was considered acceptable. Andy Waters, another attorney handling vaccine injury cases, called the memo "incredibly damning and incredibly significant." The document was not included in papers previously released by Merck to Waters.

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"'91 memo warned of mercury in shots," Myron Levin, *Los Angeles Times*, February 8, 2005.