

Biomedical Update:

SAD identified, treated in autistic-like patients

Many people become depressed in the winter months when they are exposed to little sunlight—a phenomenon known as “Seasonal Affective Disorder,” or SAD. Researchers L. B. Cooke and C. Thompson note that SAD can occur in developmentally disabled individuals, and report on two cases in their practice.

One moderately retarded, autistic-like patient experienced manic episodes in the summer, and depressive episodes in the winter (during which he became quiet and withdrawn, lost interest in activities, and ate and slept poorly). He was treated for many years with drugs, with limited success. Cooke and Thompson diagnosed his Seasonal Affective Disorder when he was in his forties, and treated him with full-spectrum light (the standard treatment for SAD). For four years since the treatment began, they say, the man has had no seasonal mood swings.

A second patient, a nine-year-old boy with severe retardation and autistic behavior, was calm in the summer but aggressive, hyperactive, and self-injurious during the winter months. Light therapy markedly improved the boy's behavior and mood, although it did not resolve his sleeping problems.

“Patients with poor verbal skills may not be able to express their seasonal changes adequately,” the researchers say, “but careful observation of the timing of behavioral abnormalities may aid the diagnosis of SAD.”

“Seasonal Affective Disorder and response to light in two patients with learning disability,” L. B. Cooke and C. Thompson, *Journal of Affective Disorders*, Vol. 48, 1998, pp. 145-148. Address: L. B. Cooke, New Friends Hall, Barkley Hill, Heath House Lane, Stapleton, Bristol BS16 1BG, UK.

Evidence of viral link to autism reported

New evidence reported by Vijendra Singh and colleagues suggests that viruses, or the immunizations against them, play a role in causing autism.

Singh et al. studied 48 autistic children and 34 non-disabled control subjects. Serum samples from all subjects were analyzed for antibodies to measles and to human herpesvirus-6. The presence of these antibodies is evidence of exposure to these viruses; however, in the case of measles, antibodies can also indicate exposure to the measles vaccine. In this study, almost all subjects had

been given measles immunizations, and none had any history of infection with measles.

Singh and colleagues also analyzed subjects' serum samples for two brain “autoantibodies.” The presence of either of these autoantibodies, anti-MBP or anti-NAFP, indicates that the body is attacking its own cells. The researchers note that there is general agreement that viral infections can trigger autoimmune responses, leading the body to attack certain organs such as the brain.

The researchers report that measles and herpes antibody titers were only moderately higher in autistic subjects than in controls. However, they found that all of the non-disabled controls were negative for brain autoantibodies, while “the vast majority” of autistic samples positive for virus antibodies were also positive for brain autoantibodies. (Ninety percent of autistic children positive for measles antibodies, for instance, were also positive for anti-MBP.) “This... supports the hypothesis that a virus-induced autoimmune response may play a causal role in autism,” the researchers say. They note that their findings add to a large body of evidence implicating immune system dysfunction in autism.

“Rapid communication: serological association of measles virus and human herpesvirus-6 with brain autoantibodies in autism,” Vijendra K. Singh, Sheren X. Lin, and Victor C. Yang, *Clinical Immunology and Immunopathology*, Vol. 89, No. 1, October 1998, pp. 105-108. Address: Vijendra K. Singh, College of Pharmacy, University of Michigan, Ann Arbor, MI 48109-1065.

THE SECRET NIGHT WORLD OF CATS...

...is a delightful children's storybook written by Helen Landalf and illustrated by her brother, autistic artist Mark Rimland. It's an excellent present for the children on your gift list.

For an autographed copy of *The Secret Night World of Cats*, send \$20.00 (in California, \$21.25)—cost includes postage and handling—to ARI, 4182 Adams Avenue, San Diego, CA 92116. Specify “Cat Book.”

More clues of immune dysfunction found

Additional evidence of autoimmune processes in autism was recently reported by S. Messahel and colleagues, who have found that urinary levels of neopterin and biopterin are elevated in autistic children as compared to controls. In addition, they found that siblings of autistic children have somewhat elevated urinary levels of these substances.

The researchers note that increased levels of neopterin and biopterin are associated with immune system activation. In autoimmune diseases such as rheumatoid arthritis, they note, “neopterin levels are raised significantly during exacerbation of the disease and are lower during remission phases, thus acting as a marker of disease activity.”

While another research group did not find elevated urinary levels of neopterin and biopterin in autistic subjects, Messahel et al. say these researchers studied older children. Messahel et al. suggest that autoimmune disorders may occur early in autistic children's lives, leading to brain alterations that cause behavioral abnormalities even after levels of neopterin and biopterin return to normal.

“Urinary levels of neopterin and biopterin in autism,” S. Messahel, A. E. Pheasant, H. Pall, J. Ahmed-Choudhury, R. S. Sungum-Paliwal, and P. Vostanis, *Neuroscience Letters*, Vol. 241, 1998, pp. 17-20. Address: S. Messahel, School of Biochemistry, University of Birmingham, Edgbaston Park Rd., Birmingham B15 2TT, UK.

Chromosome 15 again linked to autism

Defects of chromosome 15 have been reported in more than a dozen autistic children, and a new study adds to evidence that the two conditions are related.

Suzanne Rineer and colleagues evaluated 29 children and young adults with a partial duplication and inversion of one region of chromosome 15. The researchers report that 20 of these individuals exhibited autistic features. Because younger children in the study showed fewer signs of autism, the researchers conclude that the effects of this chromosome defect “may include an age-related risk for developing autism.”

“Autistic symptoms among children and young adults with isodicentric chromosome 15,” Suzanne Rineer, Brenda Finucane, and Elliott W. Simon, *American Journal of Medical Genetics*, Vol. 81, 1998, pp. 428-433. Address: Elliott W. Simon, Genetic Services, Elwyn, Inc., 111 Elwyn Road, Elwyn, PA 19063.