Biomedical Update:

High-serotonin parents: at risk for depression?

Anecdotal reports and research studies suggest that parents of autistic children are more likely than other parents to suffer from depression or obsessive-compulsive disorder. New research by Edwin Cook, Jr., et al. suggests that one subgroup of such parents—those with elevated blood serotonin levels—may be at particular risk.

About one-third of autistic children have high levels of serotonin, a brain messenger chemical. In some cases their parents have elevated levels as well, suggesting that high serotonin levels may be a marker for a genetic form of autism.

Cook et al. compared a group of these elevated-serotonin parents to two control groups: parents of autistic children who had normal serotonin levels themselves; and parents of children with Down syndrome (a group selected to control for the psychological effects of having a developmentally disabled child).

The researchers found that the elevated-serotonin parents had higher ratings on a depression scale than either of the control groups, and that 8 of the 11 high serotonin parents scored above the cutoff point for diagnosing depression. This group also exhibited a trend toward higher scores than controls on a scale of obsessive-compulsive symptoms.

"If these findings are confirmed," Cook et al. say, "whole blood [serotonin] may become useful as a marker to determine which parents of children with autistic disorder are at higher risk for the development of depressive symptoms."

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"Depressive and obsessive-compulsive symptoms in hyperserotonemic parents of children with autistic disorder," Edwin H. Cook, Jr., David A. Charak, Janet Arida, Julie A. Spohn, Nancy J.M. Roizen, and Bennett L. Leventhal; *Psychiatry Research*, 1994, 52:25-33. Address: Edwin H. Cook, Jr., Child and Adolescent Psychiatry, Department of Psychiatry, MC3077, University of Chicago Medical Center, 5841 S. Maryland Ave., Chicago, IL 60637.

Videos: autistic symptoms seen early

Parents often suspect that their autistic children are "different" years before a diagnosis is made. A new study suggests that indeed, autistic children's symptoms generally are apparent by the time they are a year old.

Julie Osterling and Geraldine Dawson collected home videos of 11 autistic children and 11 nondisabled children taken during their first-year birthday parties. Raters unaware of the children's diagnoses coded each child's video based on the presence or absence of such behaviors as pointing, eye contact, babbling, gesturing, and autistic characteristics such as self-stimulatory behavior and failure to respond when the child's name was called.

"How often a child looked at others was the single best predictor of a child's later diagnosis," the researchers report. "When combined with the behaviors of showing, pointing, and failing to orient to name, 91% of the cases were correctly classified." Differences were apparent even though most of the autistic subjects had IQs over 75.

The researchers also asked a developmental pediatrician blind to the children's diagnoses to watch all of the videos. The pediatrician correctly identified eight of the 11 normally developing children, and all but one of the autistic children. "This was also the only child whose parents confidently reported late-onset autism," Osterling and Dawson say, suggesting that late-onset autism may be a distinct form of the disorder.

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"Early recognition of children with autism: a study of first birthday home videotapes," Julie Osterling and Geraldine Dawson; *Journal of Autism and Developmental Disorders*, Vol. 24, No. 3, 1994. Address: Geraldine Dawson, Department of Psychology, NI-25, University of Washington, Seattle, Washington 98195.

More evidence points to chromosome 15

To date, the only chromosome abnormality found in significant numbers of autistic subjects is Fragile X syndrome (a constriction on the X chromosome). While other genetic defects are often reported, none have "clustered" on a particular chromosome.

Now, however, a small but growing number of reports suggest that a defective gene or genes on chromosome 15 may play a role in autism. Recently, Peggy Baker et al. identified two autistic children with a duplication of a particular region (q11-q13) on chromosome 15, and Sarah Bundey et al. reported on one other case. These three cases bring the total number of children with autistic symptoms and duplication of this chromosome region to more than a dozen. A number of reports note that children with the chromosome disorder also have epilepsy, motor problems, and minor physical anomalies including high arched palates, protruding ears, and abnormal eyelid folds.

Researchers note that deletions in the same region on chromosome 15 cause two other disorders (Angelman syndrome and Prader-Willi syndrome), both of which cause retardation.

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"Brief report: duplication of chromosome 15q11-13 in two individuals with autistic disorder," Peggy Baker, Joseph Piven, Stuart Schwartz, and Shiva Patil; *Journal of Autism and Devel. Disorders*, Vol 24, No. 4, 1994, pp. 529-535. Address: Joseph Piven, Child Psychiatry Clinic, 1875 Pappajohn Pavilion, The Univ. of Iowa Hospitals and Clinics, Iowa City, Iowa 52242.

—and—

"Duplication of the 15q11-13 region in a patient with autism, epilepsy, and ataxia," Sarah Bundey, Carol Hardy, Susan Vickers, M.W. Kilpatrick, and J.A. Corbett; *Developmental Medi. and Child Neurology*, August 1994, 36, pp. 736-742. Address: Sarah Bundey, Clinical Genetics Unit, Birmingham Maternity Hospital, Birmingham B15 2TG, UK.

Case studies suggest BuSpar reduces aggression, anxiety

The drug buspirone hydrochloride (BuSpar) "may have a role in treating children and adolescents with anxious or possibly aggressive symptoms," according to a review in the *Brown University Child and Adolescent Behavior Letter*.

The authors caution that BusPar is a relatively new drug, that no blind studies of the drug have been conducted, and that BuSpar's manufacturer has received nearly 20 complaints about psychotic reactions to the drug. However, they say, case studies suggest the drug may be helpful in treating autism and anxiety, and may be a useful "augmenting agent" in the treatment of obsessive-compulsive disorder. They note that BuSpar "appears to have no withdrawal effects, even when discontinued abruptly," and say the drug is unlikely to be abused because its effects are not apparent for up to two weeks.

Case studies cited by the authors include:

—Successful treatment of an 11-year-old with obsessive-compulsive disorder and major depression, with a combination of fluoxetine and BusPar. The child had not responded to fluoxetine alone.

—A case study involving an assaultive, anxious eight-year-old with attention deficit hyperactivity disorder (ADHD). While the drug reduced the child's behavior problems, it did not affect ADHD symptoms.

—Successful treatment of a teenager diagnosed with anxiety disorder. The child, who was unable to tolerate other medication, experienced no side effects other than temporary sedation.

Few studies have been conducted using BuSpar for autism. A 1989 open trial on four autistic and retarded children compared BuSpar to Ritalin and fenfluramine (Realmuto et al.); BuSpar appeared to benefit three of the four children, "and was the most beneficial of the three medications at doses up to 15 mg three times a day." A study by Ratey et al., also in 1989, found that 9 of 14 developmentally disabled, self-injurious adults showed improvement on BuSpar; three of the subjects in this study were autistic.

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"BuSpar: a role in treating children and adolescents?," *Brown University Child and Adolescent Newsletter*, May 1994, vol. 10, No. SPEISS, pp. 1-2.

—and—

"Recent advances in the pharmacotherapy of autism and related conditions," Christopher J. McDougle, Lawrence H. Price, and Fred R. Volkmar; *Psychoses and Pervasive Developmental Disorders*, Vol. 3, No. 1, January 1994.