Interview Software Evaluates Autism Symptoms

By Heidi Splete
Senior Writer

The assessment of children with autism spectrum disorders is going high tech. The Developmental, Dimensional and Diagnostic Interview, known as 3di, is a computerized program that analyzes autistic symptoms in clinical and normal populations, said David Skuse, M.D., of University College London and his colleagues.

Current standardized interviews, including the National Institute of Mental Health Diagnostic Interview Schedule for Children, fail to measure autistic symptoms, the researchers noted.

Although nothing substitutes for a careful interview by someone who knows the child well, the 3di is a hybrid of structured and semistructured interviews (J. Am. Acad. Child Adolesc. Psychiatry 2004;43:548-58).

The program is meant primarily to evaluate autistic traits in children with normal-range abilities, but it includes features to assess children with moderate or severe mental retardation as well, the researchers said.

In terms of concurrent validity, the 3di was nearly perfect in determining whether children had any autism diagnosis: Among 60 cases and 60 comparison children (mean age 11 years), the 3di diagnosed only one comparison patient with generalized autism disorder.

In a second approach to concurrent validity involving 60 symptomatic children who were referred to psychiatric services, 27 had clinician-diagnosed autism spectrum disorders. Based on how well the children met the International Statistical Classification of Diseases, the 3di program diagnosed 29 of the children with a significant autistic disorder. In addition, the 3di’s positive predictive value was 0.93 and negative predictive power was 0.91 in a discriminant validity study of the program’s ability to distinguish autism spectrum disorders from nonautistic conditions.

Dr. Skuse is a stockholder in IXXO Ltd., which owns the rights to the interview software and to the dissemination of the technology.

Study Supports Autism’s Link To Immunity

Budapest, Hungary — Children with autism spectrum disorders appear to have immune responses different from those of healthy children, according to data presented at the 4th International Congress on Autism.

“There is evidence now for an immune dysregulation in children with autism, compared with children in the general population,” said Paul Ashwood, Ph.D., of the University of California, Davis.

In a study of 31 children ASD and 19 typically developing children aged 2-9 years, the children with ASD had abnormal levels of several cytokines in response to stimulation with three antigens, compared with the control children.

The study adds weight to the idea that autism has an immunological component, there are several previous reports of both increased autoimmunity and immune response deficits in children with autism spectrum disorders (ASD). “However, a lot of these reports are conflicting, and there is no consensus so far,” Dr. Ashwood said.

Dr. Ashwood and colleagues and stimulated peripheral blood mononuclear cells for 48 hours with phytohemagglutinin, lipopolysaccharide, and vaccine antigens. Analysis was performed for 18 cytokines. At baseline, cytokine levels were similar in the children with ASD and the control children.

Following stimulation with phytohemagglutinin, the children with ASD had statistically significantly lower levels of IL-2, IL-6, IL-10, and IL-12 than the control children. There was also a trend toward higher levels of IL-13 and granulocyte macrophage colony-stimulating factor in the children with ASD than the control children.

A similar pattern was seen after stimulation with lipopolysaccharide. Children with ASD had lower levels IL-12 and granulocyte macrophage colony stimulating factor, compared with the control children. —Kerri Wachter