Brain Scans Taken at an Early Age May Help Predict Autism in Babies

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Brain scans might be able to detect autism in infants at high risk of the disorder before they reach their first birthdays, according to a small new study published in the journal Nature. MRI scans were able to predict the developmental disorder in these children with an astounding 80 percent accuracy rate, NBC News reports.

Autism spectrum disorder (ASD) refers to a broad range of neuropsychological conditions that affect a child's social and communication skills. Symptoms can range from mildly debilitating repetitive behaviors and difficulty communicating to severe intellectual disabilities. The average age at which children are diagnosed with autism is currently 4 years old, but doctors say attempts to identify autism in younger children have been meeting with increasing success.

For this latest study, researchers used magnetic-resonance imaging scans, or MRIs, on 109 babies determined to be at a high genetic risk for autism (they had older siblings with the condition) and 42 infants with no family history of autism while they slept at four health centers across the country.

After checking the scans, scientists at the University of North Carolina found that the MRIs—taken at 6 months, 12 months and 24 months—showed significantly faster growth in brain volume during the first year among babies who would later meet the criteria for autism (such as not making eye contact, delayed speech or other developmental delays) when compared with counterparts without the condition.

"If we can target interventions before autism appears and before the brain changes appear, during a time when the brain is highly malleable or plastic, we can have a bigger impact on the outcome," said Joseph Piven, MD, director of the Carolina Institute for Developmental Disabilities in Carrboro, North Carolina, and the senior author of the study.

Piven noted that early diagnosis for autism is key to preserving communication and social skills in kids with the disorder. But the findings may also help reveal underlying causes of autism at the cellular level and help doctors learn more about the disorder because of the regions of the brain that are affected and the way in which they're transformed.

Scientists stressed that although the findings mark a major step forward, the study is experimental

and much more research is needed before MRI scans can be used as a clinical test for the disorder.

Currently, about 1 in 68 U.S. children are diagnosed with ASD. Click here to learn more about autism and why rates appear to be skyrocketing across the country.
