NEWS

Clinical research: Children with autism have abnormal airways

BY **JESSICA WRIGHT**

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Flawed flow: Airways in the lungs of children with autism (right) form a unique doublet not seen in controls (left).

Children with autism have abnormal lung anatomy, according to a study published 28 August in the *Journal of Autism and Developmental Disorders*[1]. The results suggest a potential biomarker of autism, researchers say.

Autism is diagnosed based on behavioral screens. Researchers are aiming to find **biomarkers of autism**, but so far these features, such as **differences in brain size**, identify only subgroups of people with the disorder.

In the new study, clinicians looked at photographs of the airways of 459 children who had undergone bronchoscopies at St. Joseph's Hospital in Phoenix, Arizona, between 2009 and 2011. The children had all had a chronic cough that did not respond to treatment.

The clinicians identified 49 children aged 2 to 13 years who have unusual airways. In these children, when some of their airways branch, each channel is divided into two by a wall of tissue.

To their surprise, the researchers report, all 49 children with abnormal airways turned out to have a diagnosis of autism. And none of the children without autism have these double-branched airways.

The study is the first to describe this feature, and its function is unknown. But these airways may make it difficult to clear the lungs and lead to a chronic cough, and may explain why children with autism are overrepresented in the study compared with the general population, the researchers say.

Because airways are formed by the third month of gestation, the results support the theory that autism is a **developmental disorder**. Scientists should explore whether all children with autism have abnormal airways, or just those with a severe enough cough to justify a bronchoscopy, the researchers say.

References:

1: Stewart B.A. and A.J. Klar *J. Autism Dev. Disord.* Epub ahead of print (2012) **PubMed**