

Team of Irish geneticists make breakthrough in autism research

Genetic link

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Details of a breakthrough by a team of Irish geneticists in their quest to find genes linked to autism were outlined at the World Congress on Psychiatric Genetics yesterday in Dublin.

It is predicted that the research will play a part in making identification of autism cases easier and intervention quicker. A global authority on autism, US-based Dr Andy Shih of the National Alliance of Autism Research (NAAR), predicted the Irish research would in time make a "significant contribution to unlocking the puzzle of autism".

The identification of a new "candidate gene" for autism by the Dublin-based group was confirmed by Dr Louise Gallagher, one of the researchers involved in the study. They have been studying samples from more than 200 Irish families with autistic children in an effort to find the genes associated with inherited risk for the disorder.

There are 1,200 to 2,000 children and young adults with autism in Ireland, increasing at a rate of 100 new cases every year, according to the Irish Society for Autism.

The Irish team is led by Dr Gallagher; Dr Michael Gill of Trinity College Dublin; and Dr Sean Ennis, of University College Dublin, and is working in

partnership with 170 investigators from Europe and North America on the Autism Genome Project. The project involves pooling 6,000 DNA samples from 1,500 multiplex families (two children with autism spectrum disorders and their parents). The project is run by NAAR, which was set up by parents of children with autism 10 years ago.

The future of the Irish team's work has been secured following a €5 million grant from the Department of Health. The Irish Government is the first EU government to partner with NAAR in supporting the research.

Previous research by the Irish team identified a region on "chromosome 2", which was linked to autism. The most recent breakthrough is the identification of a potential "susceptibility gene" for autism in this area. This involved identification of an individual with an abnormality on chromosome 2 within a region shown by other studies to be of interest in autism.

Follow-up studies in the Irish population found an association between autism and a gene within the region. The team is hoping other research teams involved in the project will replicate its findings.

Dr Andy Shih, chief science officer at NAAR, praised the work by the Irish researchers. He said their work in phase 2 of the project, which will seek to conduct a fine mapping of specific regions in the genome, would pave the way for more breakthroughs.

Identification of genes associated

with inherited risk for autism would provide a "tremendous enhancement" to the understanding of the disorder and would allow for the development of more effective intervention strategies, he said. It would also be possible to develop biological diagnostic tests rather than behavioural ones used at present, Dr Shih added. This would allow for earlier diagnosis and earlier intervention, which could have a tremendous impact on the quality of life for autistic children.

It is believed that upwards of 20 different genes interact to confer susceptibility to autism. However, like heart disease or diabetes or other complex disorders, it's likely that there are environmental factors at play as well, he said.

It "remains a possibility" that individuals in the community might be, because of their genetic make-up, more sensitive to potential environmental interactions, he explained. It was important to note, however, that environmental interactions "are not just vaccines and noxious chemicals" but also womb environment or early childhood exposures to other environmental factors.

On the controversy surrounding the MMR vaccine and autism, Dr Shih said it was a worldwide concern. "On a public health level, the evidence does not support a reconsideration of vaccination policies. I think that if people stopped vaccination they are potentially exposing themselves to much greater harm."