

Publication of the Month

July 08/09: The association of autism and autoimmune disorders

A number of epidemiological studies have investigated the association between autism spectrum disorders (ASDs) and family history of autoimmune diseases; such as psoriasis, rheumatoid arthritis, autoimmune thyroid diseases and type I diabetes. However, results have been inconsistent and the studies had several limitations, such as relatively small study samples, the use of self-response questionnaires, recall bias, a possible misclassification of autism cases, and exposure status. The study presented here overcomes these limitations by using nationwide registers based on standardized diagnostic procedures to find case subjects with ASDs and family members diagnosed with autoimmune diseases as well as a ≥ 10 times larger study sample compared to previous studies. It confirms the previous studies and reveals for the first time an association of ASDs and celiac disease.

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Association of family history of autoimmune diseases and autism spectrum disorders

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Using the Danish Civil Registration System all children born in Denmark from January 1, 1993, through December 31, 2004, who survived the first year of life and whose mother was born in Denmark were identified (689 196 children). By linking the study population with the Danish Psychiatric Central Register, a total of 3325 children were diagnosed with ASDs (including infantile autism, atypical autism, Asperger syndrome, and pervasive developmental disorder), of which 1089 had an infantile autism diagnosis.

No association was found between parental autoimmune diseases in general and an increased risk for ASDs fa child. However, for some particular autoimmune diseases the link was significant.

An increased risk for ASDs was found for children with a family history of rheumatoid arthritis, which gives rise to the suspicion that this is caused by a prenatal exposure to maternal antibodies or fetal environment during gestation.

In contrast to previous publications an association between not only maternal but also paternal history of type I diabetes was found, suggesting a common genetic factor.

For the first time maternal diagnosis of celiac disease was found to be associated with ASDs. However, celiac disease diagnosed before pregnancy (and thus treated before pregnancy with a gluten-free diet) does not seem to constitute a risk of adverse fetal outcome, indicating the importance of treatment of pregnant women with celiac disease. This stresses the importance of diagnosing celiac disease, and also the silent cases, not only for the mother's sake, but also to decrease the child's risk of getting ASDs.

