Dokumenttyp: journal article

Autor(en) des Beitrags:
Winkler, C; Mollenhauer, U; Hummel, S; Bonifacio, E; Ziegler, AG

Titel des Beitrags:
Exposure to environmental factors in drinking water: risk of islet autoimmunity and type 1 diabetes--the BABYDIAB study.

Abstract:
Type 1 diabetes (T1D) is characterized by autoimmunity against pancreatic islets, and autoantibodies may be present for years before diagnosis. Environmental factors during early life, including drinking water, may play a role in pathogenesis of T1D. The German BABYDIAB study is a prospective observational study that followed newborn offspring of mothers or fathers with T1D from birth to 17 years of age. The present study was a nested case-control analysis, where subjects with islet autoimmunity were defined as cases (n=95), those without as controls (n=139). Drinking water quality was obtained from the German Water Supply Authorities for the participating families for the first year of the child's life. There was no significant association between water acidity or drinking water quality (concentration of minerals and elements) and islet autoimmunity risk. Increased progression to diabetes in islet autoantibody-positive children was associated with exposure to water with lower pH values (less than cohort median, 7.62; odds ratio [OR]: 2.5; 95% confidence interval [CI]: 1.1-5.7; p=0.03) but was not significant after correction for multiple comparisons. Concentrations of nitrate, nitrite, iron, aluminum, and manganese were not associated with risk of T1D progression. This is the first prospective study with water quality measured before the onset of islet autoimmunity and T1D. Consistent with a previous cross-sectional
case-control study, we found an association between drinking water pH and the rate of T1D development in at-risk children. The association is marginal and requires validation in other prospective cohorts.

Zeitschriftentitel / Abkürzung: Horm Metab Res

Jahr: 2008

Band: 40

Heft / Issue: 8

Seiten: 566-71

Sprache: eng


Print-ISSN: 0018-5043

TUM Einrichtung: Kinderklinik und Poliklinik

Occurences:

· Einrichtungen > Fakultäten > Fakultät für Medizin > Kliniken und Institute > Klinik und Poliklinik für Kinderheilkunde und Jugendmedizin > 2008

entries: