

Early probiotic use and islet autoimmunity in children at risk for type 1 diabetes

November 9 2015

Probiotic exposure during the first 27 days of an infant's life may be associated with reduced risk of islet autoimmunity among children at increased genetic risk for type 1 diabetes, although further studies are needed before any recommendations for probiotics can be made, according to an article published online by *JAMA Pediatrics*.

Probiotics are live organisms that may confer health benefits. Animal studies have looked at manipulation of gut microbiota by <u>probiotics</u> and the risk of developing type 1 diabetes (T1DM) related to autoimmunity.

Ulla Uusitalo, Ph.D., of the University of South Florida, Tampa, and coauthors examined the association between supplemental probiotic use during the first year of life and islet autoimmunity. Islet autoimmunity occurs when antibodies attack <u>islet cells</u> in the pancreas that produce insulin.

The authors report the results of The Environmental Determinants of Diabetes in the Young (TEDDY) study, which started in 2004 with <u>children</u> from six clinical centers, three in the United States (Colorado, Georgia/Florida and Washington) and three in Europe (Finland, Germany and Sweden).

The children were followed-up for T1DM-related autoantibodies with blood samples drawn every three months between 3 and 48 months of age and every six months thereafter to determine persistent islet autoimmunity. Questionnaires and diaries were used to detail infant



feeding, including probiotic supplementation and infant formula use.

A final study sample consisted of 7,473 children who ranged in age from 4 to 10 years old. Probiotic supplementation from dietary supplements or infant formula varied by country and was most pervasive in Finland and Germany during the first year of a child's life.

Receiving probiotics through a dietary supplement or fortified <u>infant</u> <u>formula</u>, or both, by 27 days of age may be associated with a <u>reduced</u> <u>risk</u> of islet autoimmunity compared with those children who first received probiotics after 27 days of age or not at all. Early probiotic exposure appeared to be associated with a 60 percent decrease in the risk of islet autoimmunity among children with the highest-risk HLA genotype DR3/4 but not among other genotypes.

An association does not imply causality and further research needs to be done, the study notes.

"Early exposure to supplemental probiotics may decrease the risk of IA [islet autoimmunity] among children at elevated risk of T1DM. ... These results have to be confirmed before making recommendations on the use of probiotic supplementation," the study concludes.

In a related editorial, George M. Weinstock, Ph.D., of the Jackson Laboratory for Genomic Medicine, Farmington, Conn., writes: "This protective association between early probiotic use and T1DM-related IA awaits further <u>randomized clinical trials</u>. ... While probiotic use in children is not that common in the United States, statistics in the current study show it to be more widespread in the study's other participating sites of Finland, Germany and Sweden. This is an area in its infancy but likely to have a large impact on the medicine of the future."

More information: JAMA Pediatr. Published online November 9,



2015. DOI: 10.1001/jamapediatrics.2015.2757

JAMA Pediatr. Published online November 9, 2015. <u>DOI:</u> <u>10.1001/jamapediatrics.2015.3246</u>

Provided by The JAMA Network Journals

Citation: Early probiotic use and islet autoimmunity in children at risk for type 1 diabetes (2015, November 9) retrieved 28 April 2024 from <u>https://medicalxpress.com/news/2015-11-early-probiotic-islet-autoimmunity-children.html</u>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.