

New insights on link between early consumption of cows' milk and Type-1 diabetes

5 May 2008

Researchers in Maine report a new explanation for the mysterious link between consumption of cows' milk protein in infant formula early in life and an increased risk of later developing Type-1 diabetes. A protein in cow's milk that triggers an unusual immune response appears to be the main culprit, they say. The study is scheduled for the June 6 issue of ACS' monthly *Journal of Proteome Research*.

In the new study, Marcia F. Goldfarb points out that several studies have reported a possible link between the early introduction of cow's milk protein into an infant's diet and subsequent development of the disease. In Type-1 diabetes, the immune system erroneously appears to attack and destroy insulin-producing cells in the pancreas. It usually begins in childhood, requires insulin injections, and afflicts about 800,000 people in the U.S. alone.

Scientists do not understand the link between cow's milk and diabetes. They know, however, that beta-lactoglobulin, a protein present in cow's milk but not found in human breast-milk, is structurally similar to the human protein glycodelin, which controls the production of T-cells. T-cells help guard the body against infection.

Goldfarb describes research on patients with Type-1 diabetes, which suggests that an infant's immature immune system may inadvertently destroy glycodelin in an effort to destroy the similar cow's milk protein, which the system recognizes as foreign. This could result in the overproduction of T-cells, which can attack the insulin-producing cells of the pancreas and trigger diabetes, she says.

Source: American Chemical Society

APA citation: New insights on link between early consumption of cows' milk and Type-1 diabetes (2008, May 5) retrieved 24 September 2022 from <https://medicalxpress.com/news/2008-05-insights-link-early-consumption-cows.html>

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