**The other diabetes**

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*New research suggests bugs may be to blame for Type 1 diabetes*

Among the two most common variants of diabetes mellitus — the condition in which the blood contains unhealthy levels of glucose — Type 1 diabetes is the most mysterious. In this condition the cells that produce insulin, the hormone necessary to control sugar, are either too few or non-existent and the only solution is to ingest insulin externally. Beyond that, science is yet to figure out what causes the pancreas to fail in its task of creating insulin cells.

This week, scientists at U.K.’s Cardiff University report in *The Journal of Clinical Investigation* that germs may be the answer. Certain bugs may be triggering the body’s immune system to destroy the cells that produce insulin. Killer T cells — a kind of white blood cell that fights infection — play a major part in Type 1 diabetes by destroying insulin-producing cells, known as beta cells. “We identified part of a bug that turns on killer T cells so they latch onto beta cells. This finding sheds new light on how these killer T cells are turned into rogues, leading to the development of Type 1 diabetes,” David Cole, one of the authors, said in a statement.

**The deadlier diabetes**

Type 1 diabetes is believed to be congenital and affects children and young people unlike Type 2, a late onset disease that afflicts 90 per cent of diabetics and is thought to be caused by improper nutrition and other lifestyle factors. “Finding the cellular mechanisms behind the development of autoimmune diseases, such as Type 1 diabetes, could lead to treatments that help us lead longer, healthier lives,” Mr. Cole added.

Around the world, 21 million people have Type 1 diabetes and constitute between 5-10 per cent of global cases of diabetes.

While figures suggest that India is in the grip of a Type 2 diabetes epidemic, with more rural than urban populations diagnosed with the condition, there is also a marked rise in Type 1 afflictions.

A report in the *Indian Journal of Endocrinology and Metabolism* notes that India has about 97,700 children with Type 1 diabetes mellitus. The Karnataka State registry of diabetes incidence has found a ratio of 3.7 cases per 1,00,000 boys and 4 for every 1,00,000 girls over 13 years of data collection. At Karnal in Haryana, the prevalence of Type 1 diabetes mellitus is 26.6/1,00,000 people in urban and 4.27/1,00,000 in rural areas of the district, leading to an average prevalence of 10.20/100,000 population.

**An interim solution**  
  
Till researchers better understand Type 1 diabetes, a solution may be to grow insulin-producing cells in the lab. Islexa, a research company in the U.K., plans to manufacture lab-grown islet cells, which are found in the pancreas and are responsible for insulin production, by relying on donated pancreatic issue.

Prof. Kevin Docherty, from the University of Aberdeen, told *The Guardian*: “Donated islets are already effectively treating severe cases of Type 1 diabetes. Having a hugely expanded supply of lab-grown islets will enable us to significantly extend this established clinical treatment.”

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