Are There More Than Two Types of Diabetes?

Findings that reveal five distinct forms of diabetes may one day change treatment for patients.

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Up until now, diabetes has been categorized into two main categories: type 1 and type 2. But new findings published in The Lancet Diabetes & Endocrinology suggest that there may in fact be five types of the chronic illness based on six measurable factors, reports Medical News Today.

For the study, researchers evaluated data from four groups of adults from Sweden and Finland—a total of 14,775 participants—who were newly diagnosed with diabetes. Scientists assessed individuals' body mass index, age at diabetes diagnosis, long-term blood sugar control, the functioning of beta cells, insulin resistance and the presence of diabetes-related autoantibodies (proteins that can't distinguish between the body's own tissues and harmful bacteria or viruses).

In addition, researchers compared participants' disease progression, complications and treatment. Results identified and categorized the five following distinct types of diabetes:

- Cluster 1: severe autoimmune diabetes (currently known as type 1 diabetes), characterized by insulin deficiency and the presence of autoantibodies (found in 6 to 15 percent of those in the study)
- Cluster 2: severe insulin-deficient diabetes, characterized by younger age, insulin deficiency and poor metabolic control but no autoantibodies (identified in 9 to 20 percent of participants)
- Cluster 3: severe insulin-resistant diabetes, characterized by severe insulin resistance and a significantly higher risk of kidney disease (found in 11 to 17 percent of individuals)
- Cluster 4: mild obesity-related diabetes, most commonly seen in obese individuals (affecting 18 to 23 percent of participants)
- Cluster 5: mild age-related diabetes, mostly found in elderly individuals and the most common form of the disease (seen in 39 to 47 percent of individuals).

Additionally, because scientists noted that patients in each group weren't receiving the proper treatment, they suggested that the current diabetes classifications don't address the underlying factors of the illness.

"This study moves us toward a more clinically useful diagnosis and represents an important step toward precision medicine in diabetes," said Leif Groop, PhD, of the Lund University Diabetes Centre in Sweden and the Institute for Molecular Medicine Finland in Helsinki.

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