

Hyperglycemia Type2 Diabetes

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COMMENTARY

Type 2 diabetes (T2D), formerly known as adult diabetes, is a type of diabetes characterized by hyperglycaemia, insulin resistance, and relative insulin deficiency. Type 2 diabetes is an obstacle to the way the body uses and regulates sugar (glucose) as a fuel. This long-term (chronic) condition has too much sugar circulating in the bloodstream. As a rule, high levels of sugar in the blood can lead to damage to the circulatory, nervous and immune systems. Type 2 diabetes, formerly known as adult diabetes, can develop in both childhood and adulthood. Type 2 diabetes is more common in the elderly, but as the number of obese children increases, so does the number of young people with type 2 diabetes. Common symptoms include increased thirst, frequent urination, and unexplained weight loss. Symptoms include increased hunger, malaise, and unhealing wounds. Symptoms often appear slowly. Long-term complications of hyperglycaemia include heart disease, stroke, diabetic retinopathy that can lead to blindness, renal failure, and poor blood flow to the limbs that can lead to amputation. There is no cure for type 2 diabetes, but you can take the following precautions: If diet and exercise alone do not control blood sugar levels, diabetes medications and insulin therapy may also be needed. Type 2 diabetes is primarily the result of obesity and a sedentary lifestyle. Some people are more genetically at risk than others. At a ratio of 100%, 90% of type 2 diabetes is found, and the remaining 10% is type 1 diabetes and gestational diabetes. In type 1 diabetes, autoimmune-induced loss of insulin-producing beta cells in the pancreas lowers total insulin levels used to control blood glucose levels.

Cause

Type 2 diabetes is primarily the result of two related problems.

- Muscle, fat, and liver cells become insulin resistant. These cells do not interact with insulin in the usual way and therefore do not get enough sugar.
- The pancreas cannot produce enough insulin to control blood sugar levels. The exact reason for this is unknown, but obesity and inactivity are the main factors.

The Role of Glucose

Glucose (sugar) is the main source of energy for the cells that make up muscle and other tissues. Glucose use and regulation includes:

- Glucose comes from two major sources: food and liver.
- Glucose is absorbed into the bloodstream and enters cells with the help of insulin
- The liver stores and produces glucose.
- When blood sugar levels are low, such as when you haven't eaten for a long time, the liver breaks down the stored glycogen into glucose to keep your blood sugar levels within the normal range.

This process does not work well in type 2 diabetes. Instead of entering your cells, sugar accumulates in your bloodstream. When blood sugar levels rise, pancreatic insulin-producing beta cells release more insulin. Ultimately, these cells are at risk and unable to produce enough insulin to meet the body's needs.

In rare type 1 diabetes, the body has little or no insulin because the immune system accidentally destroys beta cells.

Risk Factor

Factors that may increase your risk of type 2 diabetes include:

- Weight. Obesity is a great risk.
- Inactive. The less activity you have, the higher the risk. Physical activity helps control weight, use glucose for energy, and make cells more sensitive to insulin.
- Family history. If your parents or siblings have type 2 diabetes, you are at increased risk of type 2

Complications

Type 2 diabetes affects many important organs, including the heart, blood vessels, nerves, eyes, and kidneys. Treating diabetes and controlling blood sugar levels can reduce the risk of these complications and complications.

The potential complications of diabetes and common complications are:

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- Heart and blood vessel disease. Diabetes is associated with an increased risk of heart disease, stroke, high blood pressure, and narrowing of blood vessels (arteriosclerosis).
- Kidney disease. Diabetes can cause chronic kidney disease or irreversible end-stage kidney disease and may require dialysis or kidney transplantation.
- Slow healing. If left untreated, cuts and blisters can become serious infections that are difficult to heal. Serious injuries may require amputation of the toes, feet, or legs.

Diagnose

Type 2 diabetes is usually diagnosed with glycated haemoglobin (A1C) test. This blood test shows your average blood glucose over the last few months. The result is interpreted as follows:

- Less than 5.7% is normal.

- 5.7% to 6.4% are diagnosed with prediabetes.
- More than 6.5% on two separate tests indicate diabetes.

Screening

The American Diabetes Association recommends regular screening with diagnostic tests for type 2 diabetes in all adults over the age of 45 and in the following groups:

- People under the age of 45 who are overweight or obese and have one or more risk factors associated with diabetes
- Gestational diabetic female
- People diagnosed with prediabetes
- Overweight or obese children with a family history of type 2 diabetes or other risk factors