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Diabetes Mellitus Type 1 -- Symptoms, Causes and Treatment

Special areas in the pancreas gland, the islets of Langerhans, produce a hormone called insulin. This hormone is a protein of small size. Insulin stimulates muscle cells and other body cells to take up glucose from the blood and convert the glucose to glycogen, a kind of starch, and then store the glycogen. By need the body cells convert the glycogen to glucose and use it as fuel. In this way insulin keeps the glucose level in the blood at a normal size.

By diabetes type I the cells producing insulin are destroyed. Then less glucose is taken up from the blood into the body cells and utilized there, and glucose accumulates in the blood.

THE CAUSES AND MECHANISMS OF DIABETES TYPE I

The cause of the disease is not well known. An auto-immune response attacking the insulin producing cells in the langerhansian islets may be a cause. Virus infection may be another cause. The disease also is to some extent inherited.

When the glucose uptake into the body cells is reduced, but glucose instead accumulates in the blood, the following physiological effects occur:

- The body cells do not get enough fuel for the work they shall do.
- The molecular thickness (osmality) of the blood increases. This causes water to be pulled out from the body tissues and into the blood. The tissues thus get dried out and the urine production increases.
- The tissues begin to break down protein and fat to get energy, causing weight loss and muscular reduction.

The symptoms of diabetes type 1 are a consequence of these mechanisms.

SYMPTOMS OF DIABETES TYPE 1

The disease often starts suddenly. Often children or young people are attacked by the disease. The lack of insulin causes an increased amount of blood sugar. Early symptoms of the disease are:

- Increased urine production
- Dehydration (lack of water in the body)
- Abnormally high thirst as a consequence of increased urine production
- Dryness in the mouth
- An abnormal high appetite
- Feeling extremely tired and weak
- Weight loss, even when one eats well
- Impaired vision

If the blood sugar level is not stabilized to a normal value, there will be an accumulation of chemicals in the body called ketones, and this condition is called diabetic ketoacidosis. This serious condition can lead to coma and death. The signs of ketoacidosis are:

- Vomiting,
- Pain in the stomach
- Rapid breathing,
- High pulse rate
- Somnolence (abnormal tendency to sleep)

In the long term, diabetes type 1 can severely hurt the blood vessels in vital organs. This can further cause damage to the heart, eyes, kidneys or other body organs.

TREATMENTS OF DIABETES TYPE 1

Diabetes type 1 is treated with insulin injections. Implanting insuline cells in the pancreas is an experimental treatment. Another experimental treatment is to implant stem cells in the pancreas that can develop into new

insulin producing cells.

Another important module of the treatment is regulation of the amount of sugar and fat consumed through the diet so that it fits together with the insulin-amount injected. Also regular monitoring of the blood sugar level to regulate the insulin amount is an important part of the treatment.

There are also natural products in the market that can help to normalize the blood sugar level by diabetes type 2. Those products cannot heal the disease or replace insulin injections, but they can help the body to regulate the blood sugar level. These products contain minerals that are working components of enzymes that stimulate the glucose metabolism in the body. They also contain herbs that have been used for a long time in traditional medicine to regulate the glucose level and that have proven their effects in scientific studies.

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