

PROBLEMS OF DIABETOLOGY IN ISRAEL

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In 2014 the Knesset Information Center published a report in which were given information about spread of diabetes mellitus in Israel. It is shown that Israel is in second place among developed countries for mortality from diabetes mellitus. Every year in Israel from the disease dying more than 2000 people, it is 6.7% of all deaths. In this sad statistics only Mexico ahead of Israel. Such data were very surprising considering that mortality from other diseases compared to other developed countries is quite low. Of course, the question arises: why is this happening?

This phenomenon has several causes. Thus, the main of them is late diagnosis. At present in Israel at 400 thousand patients diagnosed "diabetes mellitus". But still about the same number of people are not aware of their illness and do not receive appropriate therapy. When the diagnosis finally determined the changes in the pancreas have become very expressive, and there are no possibility to save part of the acting cells. In this case, significantly increasing the number of complications, worsening quality of life and a growing number of deaths.

Feature of clinics of the country is the practical absence of endocrinological departments, and the presence of departments depending on the development of complications: endocrinological ophthalmology, department of endocrinological limb lesions and diabetic foot, department of acute complications of diabetes mellitus and so on. This approach is due to the fact that the basic concept of the treatment of the disease is an outpatient phase correction diabetes mellitus by family doctor with the active participation of the patient.

Israel has positioned itself as a world leader in the treatment of diabetes mellitus. As around the world, endocrinologists of the country use three components in the treatment of disease, namely:

1. Individual low-carbohydrate diet.
2. Restoring normal levels of oxygen in the body.
3. Individually designed scheme of therapy that promotes recovery of body organs which were damaged cause of pathological process: kidneys, heart, blood vessels and eyes.

Directions of scientific developments in diabetes treatment in Israel are:

1. Creating an artificial pancreas which was designed for children. It is composed of glucose sensors and insulin pump connected to a computer with a special medical program.

2. Synthesis of a medicament for the treatment of diabetes DiaPep277 which is currently included in the clinical studies on the treatment of type 1 diabetes mellitus. According to the authors, a synthetic peptide, probably able to stop the progression of this form of the disease. It connects to the fact that during the

formation of the disease there is a change in the immune status, which promotes apoptosis of insulin-producing beta cells of the pancreas.

3. Development of gastric stimulator - implanted stimulator with electrodes that are attached to the outer abdominal muscle, which effectively control the level of glucose in the blood as well, or better than synthetic insulin and other drugs for diabetes mellitus. It also helps to reduce high blood pressure, level of cholesterol and triglycerides.

4. Creation of smartphones with medical sensors for the analysis of blood glucose levels and body fat percentage. The results are automatically sent to a remote server for analysis algorithms in the parent company.

5. Transplantation of insulin-producing cells with matching them vessels. This treatment is at the stage of laboratory animal testing and has quite good results.

6. Creation of new enzymes for the treatment of diabetes. Scientific researchers in Jerusalem established enzymes that stimulate the production of insulin by the pancreas with an increase in the level of blood glucose. This can improve the function of pancreatic beta-cells.

7. Prediction of risk of diabetes mellitus. Studies have shown that the risk of diabetes grows with increasing body mass index, "exhaustion" at work, physical and mental fatigue and gestational diabetes. Changing lifestyle and diet in patients at the risk group can prevent its occurrence.

8. The search of new drugs for treatment of diabetes mellitus.

9. Determination of the influence Dead Sea water. Studies have shown a positive impact on the Dead Sea water on the level of blood glucose. In particular, stay in the pool with water from the Dead Sea for 20 minutes lowers blood glucose by 13%.

10. A natural treatment for diabetes. In particular, a joint study by researchers at the University of Jerusalem and Harvard University showed that naringenin substance that is in the grapefruit reduces sugar. Researchers using nanotechnology have developed a method for producing the active form of naringenin.

Also it found that the bariatric surgery (obesity treatment) gastric bypass in patients with diabetes decrease sugar level in blood right after surgery. These results have been using in practice.

In the treatment of diabetes mellitus type 2 proposed a new "Gravicentral conception" by Dr. Shmuel Levit. His conception reviewing at the main 4 existing myths of "Glukosecentral conception" and consider diabetes as a disease which can be cured. This system breaks the vicious circle of widely used today therapy in which increasing doses of insulin leads to the abuse of food and obesity, and excess food and obesity - again to increase the dose. Dr. Levitt and other endocrinologists who developed this method admit that if reduce body weight of the patient, the dysfunction of β -cells of the pancreas and insulin sensitivity are become reversed.

One of the ways of finding new treatments for diabetes is to try to develop a vaccine. It is based on a study that showed that in diabetes mellitus the pancreas produces a protein that blocks the synthesis of insulin. However, currently conducted researches did not give reliable results in testing vaccines.