DIABETES THERAPY IN WARTIME CONDITIONS

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Introduction

The article highlights the most urgent problem of endocrinology - diabetes mellitus (DM), which is spreading at a catastrophic rate, becoming a real epidemic of the XXI century. Metformin is a hypoglycemic drug that has proven its effectiveness in the treatment of type 2 diabetes for many years. Therefore, it is metformin that is stable in the choice of the drug of the first line of glucose-lowering therapy. Type 2 diabetes is one of the most common diseases characterized by metabolic disorders as a result of many pathophysiological processes. The leading pathophysiological disorder of type 2 diabetes is insulin resistance of muscle and adipose tissue together with pancreatic β-cell dysfunction. Further processes take place in adipose tissue, organs of the gastrointestinal tract, α-cells of the pancreas, and kidneys. All this leads to the development of chronic hyperglycemia.

In all countries of the world, DM is an important medical and social problem due to the constant growth of this pathology. However, in the majority of patients, normoglycemia cannot be maintained through lifestyle modification. Metformin is currently the first-line drug, the role of which has been proven by all leading international and national organizations. Metformin is the most economical and safest of all hypoglycemic drugs. It is well tolerated by patients (80%), has an absolute evidence base in terms of anticancer and cardioprotective effects.

The aim of the study

The purpose of the work is to study the effectiveness of the treatment of type 2 diabetes with a new slow-release form of metformin - Diaformin SR.

Research materials and methods

The research was carried out on the basis of the Poltava State Medical University in the endocrinology department of the Poltava Regional Clinical Hospital named after M.V. Sklifosovsky. 36 patients with type 2 diabetes were examined, 18 practically healthy people were the control group. Of them, 15 were women, 21 were men, the age of the examinees varied from 43 to 55 years, which was (45.03±1.22) years on average.

The criteria for inclusion in the study were: type 2 diabetes detected for the first time, overweight (BMI - 25-29.9 kg/m2), obesity (BMI - 30-34.9 kg/m2), abdominal obesity (according to IDF criteria, 2005), waist circumference >94 cm for men and >80 cm for women, heredity, age from 40 to 55 years, glycosylated hemoglobin (HbA1c) ≥ 6.5%, fasting blood glucose in venous plasma 5.6-8,0 mmol/l. The fasting venous plasma glucose concentration was determined by the standard method - the oxidase method, and HbA1c by the biochemical method.

All patients were prescribed metformin - Diaformin SR (PJSC Farmak) at a dose of 2000 mg/day. The starting dose was 1000 mg, with a subsequent increase in the dose after 10 days by 1000 mg, that is, to the maximum daily dose.

The results of the study showed that the indicators of carbohydrate and lipid profiles before the start of treatment were significantly different from the control group. After the treatment in the group of patients who were prescribed Diaformin SR in a dose of 2000 mg, the level of fasting blood glucose and 2 hours after a meal, HbA1c, and total cholesterol significantly decreased.

Indicators of carbohydrate and lipid profiles in patients with type 2 diabetes and practically healthy individuals: indicator - practically healthy individuals n=18 (№1), patients with Type 2 diabetes n=36 years (№2).

Fasting blood glucose: 5.10 mmol/l ±0.12 (№1), 6.72 mmol/l ±0.2(№2) $p<0.05$. Blood glucose after 2.00 hours after meals: 5.93±0.8 mmol/l (№1) - 10.11 mmol/l ±1.2 (№2), $p< 0.05$. HbA1c, 4.56% ±0.23 (№1) - 7.14% ±0.35(№2), $p<0.05$. Total cholesterol: 5.21 mmol/l ±0.2 (№1), 6.18 mmol/l ±0.16(№2), $p< 0.05$.

All patients under treatment were underweight or obese. For them, the target

parameter of the multifactorial treatment of type 2 diabetes was weight loss. A decrease in body weight was noted in all patients already during the 1st month of taking the drug (up to 3 kg), after which the intensity of weight loss increased. During the entire period of observation, positive dynamics of BMI reduction were revealed, which had reliable values.

Conclusions

Thus, in modern conditions, according to numerous observations, metformin is the first-line drug for the treatment of type 2 diabetes. Significant disadvantages that reduce the purpose of this drug are the frequency of administration and side effects of the gastrointestinal tract. When the domestic drug Diaformin SR appears on the market of Ukraine, we are able to achieve a significant level of compensation for type 2 diabetes by reducing side effects. Also, the duration of action of the drug makes it possible to change the dosage regimen, using the drug once a day. All the advantages of the new form of slow-release metformin - Diaformin SR have the right of precedence in effective therapy of type 2 diabetes.