MODERN ORAL DRUGS TREATMENT OF DIABETES MELLITUS TYPE 2

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Introduction. Diabetes mellitus (DM) is a group of endocrine diseases, developing as a result of absolute or relative deficiency of insulin, resulting in a persistent increase in the level of blood glucose — hyperglycemia. It complicates with numerous pathologies such as atherosclerosis, nephropathy, neuropathy, retinopathy etc.

Aim. To perform from a biochemical point of view the most effective drug in the treatment of diabetes mellitus type 2.

Materials and methods. Scientific literature and statistics practitioner endocrinologists.

Results and discussion. Classification of drugs of diabetes II type: sulfonylureas (1st generation - carbutamide, tolbutamide, generation 2 – glycidone, gliclazide, glibenclamide, glipizide, glimepiride); biguanides (Metformin, bufan) thiazolidinediones (rosiglitazone, pioglitazone); inhibitors of α-glucosidase (acarbose); glucose-lowering herbal remedies. Among of them glimepiride (Amaryl) has a dual mechanism of action: to insulin secretion and to insulin resistance. It acts by blocking cytoplasmic ATP-dependent potassium channel of the beta cells of the pancreas. This is accompanied by opening of calcium channels in the membranes of beta cells and enhancing the penetration of calcium (depolarization). Glimepiride inhibits platelet aggregation in vivo and in vitro due to inhibition of growth of intracellular calcium in platelets and selective inhibition of the cyclooxygenase, which suggests the possibility of its use for prevention of late vascular complications in diabetic patients.

Conclusions. Metformin decreases hyperglycemia, does not provoke hypoglycemia. In contrast to derivatives of sulfonylurea, stimulates insulin secretion and does not show hypoglycemic effect in healthy people. Sulfanilamides increase the sensitivity of peripheral receptors to insulin and glucose utilization by cells, inhibits gluconeogenesis in the liver, delaying induction carbohydrates in the gut. Glimepiride (Amaryl) has a number of advantages, in particular the appointment of lower doses, fast onset and longer duration of action, much more rare hypoglycemic reactions, positive effect on lipid metabolism, which, no doubt, opens up new horizons in the treatment of patients with non-insulin dependent diabetes.