

INJECTION DRUGS FOR TREATMENT OF DIABETES MELLITUS TYPE II

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Rationale. Near 425 millions of people worldwide suffer from diabetes. According to projections of the World Health Organization diabetes will take the seventh place among causes of death in 2030. Diabetes type 2 makes 85 – 90 % of all cases of diabetes mellitus in adults. At the present day there exists a variety of drugs for treatment of diabetes type 2, a part of which is represented with injection drugs. There also exist non-insulinic injection drugs.

Work objective consisted in the research of comparative effectiveness of new injection drugs for treatment of diabetes type 2.

Research methods. The analysis of market of pharmaceutical drugs used for treatment of diabetes type 2 in the form of solution for injection was conducted. Measures of effectiveness, duration of action and side effects of drugs and insulin preparations were compared.

Research results. Among non-insulinic injection drugs for treatment of diabetes type 2 the pharmaceutical market is represented with drugs of incretin-mimetic group. These are: synthetic analogs of Glucagon-like peptide-1 (GLP-1): Exenatide (Byetta) and Liraglutide (Victoza). Insulin preparations are effective only in the early stages of diabetes, as due to constantly high insulin concentration in blood stream eventually insulin resistance develops; besides, high insulin concentration causes obesity in patients. Incretin-mimetics provide secretion of genuine insulin in a glucose-dependent way, i.e. not only they increase insulin release from beta cells, but also stimulate the pancreas to produce just as much insulin as is required for the moment, which excludes the phenomenon of constantly high insulin concentration in blood, and the development of obesity, respectively. Also, due to low insulin concentration the resistance develops more slowly. The duration of action of incretin-mimetics amounts 12 hours for Exenatide and 24 hours for Liraglutide, which does not exceed the duration of action of insulin preparations. Among side effects of insulin preparations are: hypoglycemia, allergic manifestations, lipoatrophy and lipohypertrophy, insulin edema. Among side effects of incretin-mimetics are: allergic manifestations, and in rare cases vomiting. Even at large-dose administration of GLP-1 drugs the hypoglycemia was not revealed.

Summary. Incretin-mimetic preparations are preferable for patients with increased body weight and liability to obesity. The drawback of GLP-1 drugs is in their high costs as compared to insulin preparations.