

MODERN PHARMACOTHERAPY OF TYPE 1 DIABETES MELLITUS

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Introduction. Every 1 out of 30 Ukrainians suffers from diabetes mellitus (DM). Diabetes mellitus (DM) is an endocrine disease characterized by chronic hyperglycaemia caused by insulin secretion disorders or its full insufficiency. There are carbohydrate, lipid and protein metabolism disorders related to DM, due to abnormal insulin impact in target tissues, which results in life-threatening complications. Effective glycemic level control is to provide prevention of DM complications development and improve life quality of a DM patient.

Aim. Analysis and research of ukrainian and foreign recommendations regarding complex pharmacotherapy of type 1 DM aimed at achieving normoglycemia.

Materials and methods. We have compared ukrainian Unified clinical protocol for primary, emergency, secondary (specialized) and tertiary (highly specialized) care: Type 1 diabetes in young people and adults with similar recommendations from NICE, SIGN i ADA.

Results. Purpose of type 1 DM pharmacotherapy is obtaining the targeted level of glycated haemoglobin less than 7,0% in adults with preprandial blood glucose level 4.5-7.5 mmol/l and less than 7,5% in children. In patients with repetitive episodes of severe hypoglycaemia, cardiovascular diseases, neglected complications, psychoactive substance abuse or untreated mental illnesses level of glycated haemoglobin is tolerated to be less than 8% and preprandial blood glucose level 5.5-8.5 mmol/l. Main goals in type 1 DM patients' treatment are lifelong insulin therapy, nutrition therapy, physical activity in moderation, rejection of bad habits, self-control of blood glucose and learning.

A whole variety of innovational insulin drugs was created to gain control over type 1 DM. FDA recommends rapid-acting inhalation powder insulin Afrezza, which proved to be effective in lowering glycated haemoglobin not only in DM type 1, but also DM type 2. In 2017 there was also recommended fast-acting insulin aspart Fiasp for treatment in adults – a combination of insulin aspart with vitamin B3 and amino acid L-arginine. Such combination was intended for faster initial absorption of insulin. A new form and dose of prolonged insulin glargine in the form of a Toujeo Max SoloStar insulin syringe pen was later approved. In order to maintain basal insulin levels more effectively, an ultralong-acting insulin degludec (Tresiba), which has a duration of action more than 42 hours, has been approved. It is indicated for type 1 and type 2 diabetes.

Conclusions. Thus, substitution pharmacotherapy of type 1 DM can provide normoglycemia, normalization of lipid metabolism and prevention of complications. The development of new forms and doses of insulin helps to increase compliance in patients with the disease.

MODERN PHARMACOTHERAPY OF URTICARIA AND ANGIOEDEMA

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Introduction. Everyone nowadays has heard of an allergic reaction of the body. Estimating the data for 2020 about 40% of the population of our planet has some allergy. Some part of allergic reactions are immediate. The best known of these are acute urticaria and angioneurotic edema.

Urticaria is a disease of various etiologies characterized by a rapid spread of itchy blisters on the skin. These blisters are swelling of a limited area of the papillary layer of the skin. One type of urticaria is angioneurotic edema in which the swelling spreads to the dermis and subcutaneous layer.

Aim. Study of modern methods and standards of treatment of urticaria, search for current principles of their pharmacotherapy.

Materials and methods. In the course of the work we were analyzed and compared the information from the articles, an adapted clinical guideline based on evidence, a unified clinical protocol on the treatment of urticaria.

Results and discussion. The main link in the treatment of urticaria is the influence on its pathogenesis. Therefore, the main drugs for the treatment of urticaria are antihistamines drugs. The general treatment algorithm differs slightly from country to country, but the general treatment steps can be divided into the following steps. First, a modern second- or third-generation antihistamine is prescribed. Second-generation drugs include loratadine, cetirizine, rupatadine, bilastine, etc. The third generation is represented by drugs such as desloratadine, levocetirizine, fexofenadine. If this therapy does not help to allow an increase in the dose of these drugs to 4 times the maximum. The next step in case of ineffectiveness is the appointment of an additional drug from such groups as antihistamines of I, II and III generations (I generation is diphenhydramine, clemastine, chloropyramine, etc.), leukotriene receptor antagonists (such as montelukast, zafirlukast). Then it is possible to increase the dose of antihistamine of the first generation, subject to tolerability. If all these stages do not show the desired effect then alternative drugs are prescribed. These include cyclosporine (immunosuppressant, calcineurin inhibitor) and omalizumab (monoclonal antibody). Also, at all stages it is possible to use glucocorticosteroids (prednisolone, dexamethasone) to stabilize the patient's condition.

Conclusion. Thus, the treatment of urticaria has a step-by-step scheme of action, when there is a dependence on the severity of the disease and the effectiveness of drugs. This is effective because the drugs and treatment regimen are selected individually, which is most suitable for a particular patient.

CHRONOTHERAPEUTICS AND ITS ROLE IN THE TREATMENT OF HYPERTENSION

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Introduction. The essence of chronotherapy is the improvement of efficiency and safety of pharmacotherapy by matching drug administration time with the circadian pattern of certain biological processes. Chronopharmacology and chronotherapy were formed on the basis of new data indicating the time dependence of organism sensitivity, its systems and tissues to external factors including pharmacological influences. Circadian rhythms are present for a large number of physiologic functions. The study of circadian rhythms in the cardiovascular system is emerging as an important area of investigation because of its potential implications for patient treatment. Circadian rhythms alignment for the range of cardiovascular and hematologic functions has resulted in a peaking of cardiovascular and cerebrovascular event rates in the morning hours shortly after awakening. Recent studies assessed whether optimal timing of intake of antihypertensive medication can give a reduction of complications of cardiovascular diseases.