

STUDY OF SPECIFIC PECULIARITIES OF CHILDREN'S ORGANISM AND NECESSITY IN CHILDREN'S DOSAGE FORMS

Malyi V.V.*, Bondarieva I.V.*, Darzi Ameen Dlavar

National University of Pharmacy

Ukraine*, Iraq

Clinical pharmacology and pharmacotherapy is the least studied chapters of modern pediatric intensive developing in the last quarter of the last century. Despite advances in the study of the features of etiology, pathogenesis, clinical manifestations, diagnosis of many diseases in childhood, advances in treatment and prevention are very low, which causes patients and their treating physicians are not always optimistic.

The aim of this work is to study the specific characteristics of a children's organism and necessity children's medical forms.

The reasons, both objective and subjective, perhaps, there are many. Main among them is connected with absence knowledge of peculiarities of pharmacokinetics, pharmacodynamics, pharmacogenetics medicines in children's organism in the age aspect.

If the anatomical and physiological characteristics of the child always focus on the study of the pathogenesis of diseases and their clinical manifestations in different periods of childhood, the children's organism features of pharmaceutical items are ignored.

Pediatrician, taking into accounts the child's age characteristics, essentially drops out of sight orientation and character of metabolic processes, including those whose knowledge is so necessary in the appointment of drugs to the patient. It is typical for children slow metabolism of many drugs pharmacological groups. The situation is complicated by the appointment of child simultaneously several drugs that is in reality the rule, not the exception.

Polypragmasy itself causes considerable difficulties for drug interactions in children are poorly studied, although pediatrician focused on possible mani-

festations of antagonism as well as synergistic agents. Some medicines affect the absorption and metabolism of vitamins, especially fat-soluble, it is not always timely adjusted to sick children. For example, the laxatives, cholestyramine, and the like lipid-lowering drugs violate the absorption of vitamins A, D, E anticonvulsants, certain antibiotics significantly alter the metabolism of vitamin K. Along disturbed digestion and metabolism of water-soluble vitamins.

Drug metabolism is in children's age other than in adults. Many detoxification enzyme systems mature gradually in the process of development. These include, in particular, the system of microsomal oxidation of cytochrome P-450 oxidase in the liver and enzyme systems glutathione reductase, glutathione transferases, UDP (uridindifosfathlyukozy) -hlyukuroniltransfsrazy and others. With age, the sensitivity changes of tissue receptors for hormones, hormone and other drugs with significant bioactive properties. It is important that the pharmacokinetics and pharmacodynamics of many drugs in the baby's growth may alternate periods of decrease and increase.

At the kinetics and metabolism of drugs affect the following factors: changes with age relative volume of distribution of fluids in children – comparative advantage extracellular fluid that determines the features distribution in the body of the child as the water-soluble and fat-soluble drugs; slow rate of maturation of liver enzyme systems that convert inactive medicines and water-soluble form; low value of renal glomerular filtration rate in children, limiting output processes drugs and their metabolites in the urine; reduced ability of the liver protein and plasma binding drugs and xenobiotics; increased permeability of the membrane structures of capillaries, the blood-brain barrier; should also take into account the state of the endocrine glands are known to play an important role in the metabolism of drugs. By reducing the functional state of the thyroid gland, especially in congenital hypothyroidism, in varying degrees, changing transform medicine.

Among the unexplored aspects of pediatrics include pharmacogenetics, although the genetic factors that determine metabolism, reception, immune response, etc., are largely determined by tolerability of drugs, their safety and effectiveness.

In Ukraine, almost no special children's dosage forms used abroad hlosety (small tablet for sublingual use), candy, pastilles, balms, Kakheti (compressed dosage forms), etc. At best, are only recently suspensions, suppositories containing highly active against a pharmacological ingredients. A number of dosage forms developed based on original technologies domestic pharmaceutical industry and implemented beginning in pediatric practice.

Pediatricians usually do not provide adequate value pharmacoeconomic modeling. Efficacy, safety, cost drugs are often considered in isolation, as if by themselves. Effective drug, which costs can be quite high, often child appears not safe. Used in adult treatment regimen can not always be extrapolated to children. In pediatric pharmacotherapy safety aspect has received little attention, including the use of drugs, in pharmacological high regard.

In terms of security pediatricians are not sufficiently aware of the side effects arising from the cancellation of medicines. Many outstanding issues concerning the so-called standards or forms, on conducting children recommended treatment regimen in adults and tertiary prevention (i.e., after the diagnosis and the therapy) in children are not always effective and reasonable.

By assigning a particular drug, a pediatrician trying to take into account a set of objective and subjective factors related treatment process. However, often are ignored by the properties of the drug, its pharmacological characteristics that often reduces efficiency and increases the risk of side effects in case of misuse.

Thus, the specific characteristics of child's organism and necessity children's medical forms have been highlighted.