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BODY MASS INDEX AS ONE OF THE MARKERS OF METABOLIC PROCESSES IN BIOEQUIVALENCE STUDIES

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Actuality. Today in Ukraine there are about 14 thousand drugs, about 90% of which are generics. The most convincing method to confirm their interchangeability are bioequivalence studies.

In this article we study the influence of the body mass index (BMI) on the pharmacokinetic properties of drugs.

Materials and methods. Retrospective analysis of 15 bioequivalence studies carried out in Clinical and Diagnostics Center of National University of Pharmacy in the period from 2005 to 2015. There are 3 types of BMI: Low - 18,5-20,5; Medium - 20,6-26,5; High - 26,6-30.

Aim. The study of the impact of BMI on the pharmacokinetic parameters of the drugs.

Results. In healthy volunteers with low BMI the maximum concentration of test drug (Cmax) was more than 21% from healthy volunteers with high and medium BMI.

In healthy volunteers with high BMI (greater than 26,5) - time to maximum concentration of the test drug (Tmax) was higher by 27% than in healthy volunteers with medium and low levels of BMI.

Conclusion. The study found that at the planning stage of bioequivalence study we should take into account the probability of influence of different BMI types on the pharmacokinetic parameters; the medium level of BMI is optimal, because it allows the greatest effectiveness of the results of the bioequivalence studies.

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INFLUENCE OF THE ELECTROMAGNETIC RADIATION ON THE CENTRAL NERVOUS SYSTEM

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Actuality. Rapid development of telecommunications and computer technologies which have overflowed mankind about twenty years ago, proceeds and now. The level of electromagnetic radiations (EMR)

brings powerful contribution into environmental contamination. First of all, this problem concerns especially vulnerable members of the society who are most subjected to influence of fields - children and teenagers. In modern informational world, the basis of an environment of the child is occupied with mobile devices, gadgets with various kinds of access to the Internet, Wi-Fi routers etc. In the literature, accessible to us, we have found out some works devoted to the given theme in which frequency corresponding to given devices was used. In this connection we consider that all-round scientific researches allowing to prove the change of principles of criteria of safety are necessary for children, taking into account prospects of development of communications.

The aim to study influence the EMR on the nervous system.

Materials and methods. Experiment was made on 20 rats aged of 20 days that corresponds to age of the person from 6 till 7 years. Rats have been divided into experimental and control groups. Duration of an experimental part in each group was 30-50 days. Experiments were spent daily and automatically by device EMR with frequency of 1800-2100 MHz (frequency of modern mobile phones). It was disconnected once a day, during feeding and caring of animals contained in vivarium's conditions.

Results. Rats lost weight (45-60 g at the radiated group in comparison with 92-95 g at the control one), growth (a difference of 2-3 cm), were inactive, with the low appetite, the raised thirst was observed. Distinctions between brains in the weight (1, 65-2, 58 g at radiated and 3,97-4,05 g in normal) were observed. The functional characteristics of defeat CNS became appreciable: aggression display, unsteadiness, pendular movements by a head, the slow reaction to irritant influence.

Conclusions. It is necessary to develop ecological recommendations about influence EMR on children. We established pathological influence the EMR on a children's organism, in particular on CNS. We recommend excluding the influence of the EMR on children for prevention the development of possible pathologies.