

accounted for 50% of all cases. The patients with hypertension and combination of hypertension and heart failure accounted for 20.8% each, and with hypertension and ischemic heart disease for 8.3%.

Table 1

Causes of use of ACEIs

Hypertension	Hypertension + Heart Failure	Hypertension + Ischemic Heart Disease	Hypertension + Heart Failure + Ischemic Heart Disease
5	5	2	12

Table 2 shows that 62.5% of the patients used perindopril, 20.8% used lisinopril, and 8.3% used Ramipril and captopril each. Therefore, the most common ACEI was perindopril.

Table 2

Most widely used ACEIs

Perindopril	Lisinopril	Ramipril	Captopril
15	5	2	2

Table shows 3 that ACEIs were predominantly used in combinations with other pharmacological substances. In 16.7% of cases, ACEIs were combined with angiotensin II receptor blockers, which is a potentially dangerous combination due to higher risk of hyperkalaemia.

Table 3

ACEIs combinations

Only ACEI	ACEI+ b-blocker + Diuretic	ACEI + b-blocker + Diuretic + Calcium channel blocker	ACEI + B-blocker	ACEI + Calcium channel blocker	ACEI + Diuretic	ACEI + Angiotensin II receptor blocker
3	6	4	2	3	2	4

Conclusions.

1. The most common diagnosis for ACEI use was Hypertension + Heart Failure + Ischemic Heart Disease – 50% of all cases.
2. 62.5% of all patients used perindopril.
3. In 87.5% of cases, ACEI was used in combination with other drugs.
4. In most cases, the use of ACEIs was according to the international guidelines, but in 16.7% of cases, there were potentially harmful combinations.

RESEARCH ON THE EFFECT OF MEDICINAL PRODUCTS ON HUMAN HEMATOLOGICAL INDICATORS

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Introduction. The main aim of pharmacy and medicine is to provide quality and skilled assistance to the population and thereby improve the quality of life of Ukrainians. Therefore, the problem of providing effective and safe pharmacotherapy is becoming more and more relevant. For the treatment of diseases widely used drugs that exhibit certain pharmacological activity, unfortunately almost all drugs also cause certain side effects.

One of the most common adverse reactions to medicinal products on the human body is the damage to the system of hematopoiesis. Changes from the blood side are among the most common side effects of drugs.

Aim. The purpose of the work was to study the effects of drugs on the indicators of the general analysis of blood.

Materials and methods. To achieve the goal, a clinical and pharmaceutical analysis of drugs registered and presented on the Ukrainian market as of 01.01.2018 was carried out. The electronic resources of the Internet network were used as an information source, in particular, they were posted on the website of the State Enterprise "State Expert Center of the Ministry of Health of Ukraine" - the State Register of Drugs.

Results and discussion. According to the results of information retrieval carried out in the State Register of Medicinal Products, 355 medicinal substances were detected, the administration of which could lead to significant deviations in the laboratory parameters of clinical blood test and defined mechanisms for the implementation of their hematotoxicity.

The development of hemolytic anemia may be associated with the use of drugs that cause the formation of antibodies that react with antigens of red blood cells. Hemolytic anemia occurs when using penicillin, cephalosporins, insulin, chlorpropamide. It is also possible to develop hemolysis with deficiency of Glucose-6-phosphate dehydrogenase, resulting in red blood cells not protected from oxidants and rapidly destroyed with acetylsalicylic acid, chloroquine. Megaloblastic anemia develops in the treatment of methotrexate and phenytoin. The emergence of sideroblastic anemia is possible with the use of drugs that affect the synthesis of heme - isoniazid, cycloserine, levomitsetin. Aplastic anemia is caused by levomitsetin, cytostatics, heavy metals, benzene compounds, chlorpropamide, colchicine, streptomycin, sulfanilamides, tolbutamide, and some nonsteroidal anti-inflammatory drugs.

Agranulocytosis causes analgin, some nonsteroidal anti-inflammatory drugs, captopril, ceforin, levomicetin, chlorothiazide, chlorpropamide, furosemide, tolbutamide, and the like. The causes of agranulocytosis may be the formation of antibodies or cell division violation as a result of a change in the synthesis of DNA.

Thrombocytopenia is most often caused by cytostatics, as well as acetazolamide, ampicillin, cephalosporin, levomitsetinum, chlorpromazine, furosemide, methylodopy, estrogens, quinidine, streptomycin.

The consequence of the misinterpretation of the results of laboratory studies is the appointment of unsubstantiated pharmacotherapy in order to correct the findings, which in most cases leads not to improvement but to the deterioration of the course of the disease and the patient's condition as a result of undesirable effects of polypharmacy; the establishment of a false diagnosis of a disease, an unjustified change in properly established clinical diagnoses.

In order to avoid undesirable effects of medicinal products on the results of diagnostic clinical and laboratory tests, the following rules should be observed:

1. In the course of a diagnostic examination before the taking of biological samples for analysis within a week, the appointment of any medicinal products should be canceled.
2. When conducting a diagnostic clinical and laboratory examination it is necessary to carefully collect the medical history.
3. If during the tests the patient takes any medications, it is necessary to indicate this in the direction.
4. In the case of detecting deviations from normal parameters, before the interpretation of the results obtained, based on the medical history, exclude the possibility of these abnormalities under the influence of drug therapy.
5. If it is not possible to exclude the effect of a medicinal product on the results of the analysis, this medicinal product should be canceled and the study repeated, and only after this interpretation of the results obtained.

Conclusions. A pharmacist for a qualified consultation of a physician and a patient with a rational choice of therapeutic therapy requires knowledge of changes in laboratory parameters in conditions of the most common diseases and under the influence of drugs. This knowledge will significantly improve the quality of treatment and reduce the number of undesirable side effects, in a timely manner to identify the medical pathology, which has become a widespread and complex disease, a real "disaster" of modern medicine. A manual has been developed to collect information on the side effects of drugs that are registered in Ukraine as a result of the studies conducted. This manual will be widely available to all specialists in the field of pharmacy and medicine.