

**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»**



МАТЕРІАЛИ

**104-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького персоналу
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
06, 08, 13 лютого 2023 року**

Конференція внесена до Реєстру заходів безперервного професійного розвитку,
які проводитимуться у 2023 році №5500074

Чернівці – 2023

used in traditional medicine, since its chemical composition has not been sufficiently studied. Therefore, the study of medicinal soapwort remains relevant.

The aim of the research. To conduct a study of the chemical composition of soapwort, which will provide an opportunity to expand the pharmacological activity.

Materials and methods. The objects for research were the grass and roots of the medicinal soapwort. The grass was harvested during the phase of mass flowering of the plant, and the roots - after the death of the above-ground part.

Results. According to the literature, the roots of soapwort contain steroidal and triterpene saponins, flavonoids, ascorbic acid, and carbohydrates. Alkaloids, ascorbic acid, flavonoids, vitexin are found in the leaves. It has been discovered that there are twelve fatty acids in the grass: palmitic, stearic, L-linoleic, arachinic, tricosanic, tetracosanic, caproic; dicarboxylic acids: tartaric acid, pyruvic acid, citric acid, oxalic acid, citric acid, succinic acid, malic acid, fumaric acid; twelve elements, total and free monosaccharides, phenolic acids. The composition of the roots includes 11 elements: sodium, potassium, calcium, magnesium, iron, copper, zinc, manganese, nickel, chromium, selenium, and the content is supplemented with fatty acids: nonadecanoic, pentadecanoic, stearic, linoleic, eicosanoic, behenic, lignoceric, phenolic acids. Ascorbic acid was also detected. It is planned to expand the study of the content of such biologically active substances as saponins and tannins, the presence of which is known but insufficiently studied.

Conclusions. Therefore, a more detailed study of the chemical composition of soapwort makes it possible to prospectively study medicinal forms from this plant as anti-inflammatory, antimicrobial and expectorant in medical practice.

Matushchak M.R.

COMPARATIVE ANALYSIS OF INDICATORS OF THE TOTAL RISK OF ILLNESS AND DEATH FROM HODGKIN'S LYMPHOMA AND ITS FIVE-YEAR PREVALENCE IN UKRAINE AND POLAND

*Department of Pharmaceutical Botany and Pharmacognosy
Bukovinian State Medical University*

Introduction. Hodgkin's lymphoma (HL) is a severe disease that affects the most able-bodied population groups in society and has severe consequences for human health. In addition, considerable resources are spent on the treatment of patients with HL. All this determines the need to analyze the development of the epidemiological situation with HL.

The aim of the research was to conduct an analysis of indicators of the cumulative risk of getting sick and dying from HL, as well as its five-year prevalence in Ukraine and Poland.

Materials and methods. Indicators of the cumulative risk of getting sick and dying from HL, as well as the five-year prevalence of this pathology are presented on the official website of the WHO Global Cancer Observatory. The five-year prevalence rate was presented in the number of patients, as well as per 100,000 population in Ukraine and Poland. Comparative, mathematical and statistical and other research methods were applied.

Results. According to the results of the analysis, we have found that the overall risk of developing HL in Ukraine is 1.6 times higher than in Poland. So, in Ukraine it equals to 0.19, and in Poland - 0.12. In turn, the indicator of the cumulative risk of dying from HL in Ukraine (0.05) is 1.7 times higher than in Poland (0.03). According to the official website of the WHO Global Cancer Observatory, in 2020, the five-year prevalence of HL in Ukraine equaled 3,976 people, and in Poland 2,320 patients, which in terms of 9.09 and 6.13 people per 100,000 population. Thus, it can be stated that the relative indicator of five-year prevalence of HL in Ukraine was 1.5 times higher than according to the data presented in Poland. It has been proven that the specific weight (%) of patients with HL in the total number of oncology patients registered in 2020 in Ukraine was equal to 0.98%, and in Poland - 0.40%.

Conclusions. Comparing the data characterizing the epidemiological situation in both countries, it is possible to assert that its development is unfavorable in Ukraine. This issue requires

further research in the direction of determining the main factors that contribute to the growth of these indicators.

Melnychuk S.P.

NEPHROTROPIC EFFECTS OF EMOXIPINE UNDER THE CONDITIONS OF CHRONIC HYPOXIC HYPOXIA

Department of Pharmacology

Bukovinian State Medical University

Introduction. Free radical oxidation is the most important regulator of lipid and protein metabolism. The result of the intensification of free-radical oxidation, conditions for which are created even in hypoxia, is an increase in the content of its primary, secondary and final products, which are powerful pro-oxidants that intensify free-radical oxidation with the development of the «snow avalanche» phenomenon. However, the influence of hypoxia on numerous physiological and biochemical processes in tissues and cells is twofold and directed opposite. The most promising drugs for the correction of hypoxic conditions are antihypoxants – drugs capable of smoothing the energy deficit and preventing the destruction of cell membranes by free radicals using various mechanisms. Emoxipine, a derivative of 3-oxypyridine, attracts special attention in this matter.

The aim of the study was the effect of emoxipine on the processes of lipid peroxidation and the activity of the antioxidant system in the blood plasma of adult male white rats under the conditions of chronic hypoxic hypoxia.

Material and methods. The study was conducted on white laboratory outbred male rats of reproductive age weighing 140-180 g, which were kept on a standard balanced diet with free access to water. The animals, previously selected as moderately resistant to hypoxia, were divided into 3 groups (n=7): the first group consisted of intact animals, the animals of the second group were exposed to chronic hypobaric hypoxia. Hypobaric hypoxia was simulated in a modified flow-through pressure chamber imitating the ascent of rats to an altitude of 4000 m above sea level at a speed of 24 km/h. The animals were kept at this altitude for 2 hours daily for 2 weeks, hypoxia sessions were carried out in the morning. After the last session of hypoxia, the animals of the third group were given a single injection of emoxipin intraperitoneally at a dose of 100 mg/kg. Animals were slaughtered by decapitation under light ether anesthesia. The state of lipid peroxidation was studied by the content of malondialdehyde, and the antioxidant system – by the activity of glutathione peroxidase in the blood plasma of rats.

Results. The use of emoxipine under the conditions of chronic hypoxia contributed to a 1.6-fold decrease in the content of malondialdehyde in the blood plasma of rats compared to animals exposed to hypoxia, which indicates the ability of emoxipine to reduce the intensity of lipid peroxidation in kidney tissue through the effect of «quenching» radicals, because the action of emoxipin is aimed at the processes of free radical oxidation in biomembranes and inside cells. Taking into account that free radical products are substrates of antioxidants, it can be argued that an excessively high level of active forms of oxygen, in addition to directly attacking enzymes of antioxidant protection, is able to reduce their activity, as well as any other enzyme according to the principle of reverse inhibition by the substrate. The results of the experiment confirmed that the introduction of emoxipin during chronic hypoxia led to 1,5-fold increase of the activity of glutathione peroxidase in the blood plasma of rats.

Conclusions. Thus, the use of emoxipine under the conditions of chronic hypoxia limits the destructive effect of lipid peroxidation products and activates the enzymatic antioxidant system in the blood plasma of rats. Such a prominent antioxidant and membrane-protective potential of emoxipin can be associated with its pronounced ability to contribute to the stabilization of biomembranes of cells, the preservation of their orderly structural and functional organization, necessary for the functioning of membrane-bound receptor complexes, enzymes and ion channels.