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МАТЕРІАЛИ

ВСЕУКРАЇНСЬКОЇ НАУКОВО- ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ З МІЖНАРОДНОЮ УЧАСТЮ

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In this regard, the implementation of state guarantees in the field of drug provision for patients with rheumatoid arthritis predetermines the need to develop and implement a whole set of organisational and economic measures aimed at more efficient use of resources allocated for these purposes. In this case, the most important is the evaluation of the drugs used from the standpoint of a comprehensive approach to their efficacy, safety and cost, allowing to improve the quality of life of patients and ensure the highest possible efficiency when using the most cost-effective treatment regimens.

In this regard, the choice of medical technologies for the treatment of rheumatoid arthritis in modern healthcare should be considered based on the results of clinical effectiveness and economic evaluation, which can only be ensured by conducting a full pharmacoeconomic analysis, the application of the results of which in practical medicine contributes not only to the optimal choice of effective therapy, but also to adequate financing. However, at present there are no full-fledged data of pharmacoeconomic analysis of studies devoted to the problem of rheumatoid arthritis treatment.

This circumstance determined the choice of the topic, formulation of the main goal and objectives of the study to achieve it.

The information search revealed that rheumatoid arthritis is the most common and costly rheumatic disease. Rheumatoid arthritis patients use health care resources more frequently and more intensively than other rheumatic diseases. It has been found that almost 70% of patients with rheumatoid arthritis become disabled or suffer functional impairment in professional and daily life.

Analysis of the scientific literature has shown that several groups of drugs are currently used in the therapy of rheumatoid arthritis, including non-steroidal anti-inflammatory drugs; baseline drugs; glucocorticosteroids; and expensive genetically engineered biological drugs that require more in-depth study.

Data on their clinical efficacy and safety need a comprehensive evaluation, including the possibility of their use, taking into account the results of pharmacoeconomic analysis and comparison of alternative representatives of this class of drugs by clinical and economic indicators.

SYNTHESIS AND MOLECULAR SCREENING OF *N*-((5-PHENYL-6,11-DIHYDRO-5*H*-[1,2,4]TRIAZOLO[1',5':1,6]PYRIDO[3,4-*B*]INDOL-2-YL)METHYL)-R-AMIDE

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Derivatives of 1,2,4-triazole and indole are among the privileged objects of research and are a known basis for the creation of new drugs.

Derivatives of 1,2,4-triazole are of particular interest. Thus, derivatives of this heterocyclic system are successfully used as drugs with antifungal (fluconazole, itraconazole, voriconazole, posaconazole), antipsychotic (alprazolam, triazolam), anticancer (anastrazole, letrozole), cardio- and hepatoprotective (thiotriazoline) activities.

The medical value of indoles includes antifungal, antiprotozoal, antiplatelet, antialzheimer, antiparkinsonian, antioxidant and antitumor potential, as indole is a universal pharmacophore and a special heterocyclic compound with a wide spectrum of pharmacological activities due to different mechanisms of action.

The aim of the work was to determine the predictive level of prospects for attracting new *N*-((5-phenyl-6,11-dihydro-5*H*-[1,2,4]triazolo[1',5':1,6]pyrido[3,4-*b*]indol-2-yl)-methyl)-R-amide in the process of creating an original biologically active substance.

Materials and methods. The method of molecular docking is applied, which uses various computational algorithms to predict and analyze the interaction between molecules. This method allows you to determine possible binding sites, estimate the interaction energy and spatial configuration of molecules. Ligand models were generated using MarvinSketch 6.3.0, Hyper Chem

8 and AutoDockTools-1.5.6 software. Discovery Studio 4.0 and AutoDockTools-1.5.6 programs were used to prepare enzymes. Directly, the docking process was carried out using the Vina program, which allows you to predict and evaluate the interactions between the ligand molecule and the three-dimensional structure of the target protein, taking into account their energetic and spatial compatibility.

(Indol-3-yl)ethanoic acid was used as the starting compound, which was transformed into the starting compound (5-phenyl-6,11-dihydro-5*H*-[1,2,4]triazolo[1',5':1,6]pyrido[3,4-*b*]indol-2-yl)-methanamine. The next stage involved the interaction of the starting substance with a number of chloroanhydrides of carboxylic acids, in the medium of 1,4-dioxane in the presence of triethylamine, which made it possible to synthesize 10 new compounds. The structure of the synthesized substances was confirmed by a package of modern physicochemical methods of analysis.

Results. The structure of 10 new previously undescribed compounds was synthesized and confirmed. A prescreening analysis of the virtual set of *N*-((5-phenyl-6,11-dihydro-5*H*-[1,2,4]triazolo[1',5':1,6]pyrido[3,4-*b*]indol-2-yl)-methyl)-R-amide, which are potential candidates for the creation of biologically active compounds. According to research results, the greatest probability of anti-inflammatory and anti-cancer properties is observed in *N*-((5-phenyl-6,11-dihydro-5*H*-[1,2,4]triazolo[1',5':1,6]pyrido[3,4-*b*]indol-2-yl)-methyl)-R-amide having an unsubstituted phenyl substituent.

Conclusions. Forecast for the creation of a biologically active substance based on *N*-((5-phenyl-6,11-dihydro-5*H*-[1,2,4]triazolo[1',5':1,6]pyrido[3,4-*b*]indol-2-yl)methyl)-R-amide is reasonably encouraging. The results of *in silico* pharmacodynamic studies indicate this group of compounds as a potential source for the development of biologically active substances with anti-inflammatory, antifungal and anti-cancer effects.

INVESTIGATION ANTI-INFLAMMATORY ACTIVITY OF RED RASPBERRY LEAF EXTRACT ON CARRAGEENAN EDEMA MODEL

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Introduction. The genus *Rubus* consists of around 700 species that usually occurring in the temperate climate. Raspberries are an aggregate fruit commonly grown and consumed throughout Asian, Europe and America as members of the rose family. The raspberry fruits, leaves and blossoms have been used for medicinal purposes. The raspberry leaves have been applied usually to treat gastrointestinal disorders, respiratory disorders, heart problems, the flu, fever and diabetes. So, in our view raspberry leaf possess potent anti-inflammatory power.

Aim. To determine anti-inflammatory activity of raspberry leaf extract.

Materials and methods. The object of the study was raspberry leaf extract that was obtained by the following way a 10.0 g (exact mass) of red raspberry leaves were grinded in the size 1-2 mm. The extraction was carried by 60% ethanol on water bath at 80º C within 1 hour on water bath with a condenser, raw material/solvent 1/20. The procedure was performed twice to provide completely extraction of biological active substances, then the filtrates were united and concentrated by vacuum evaporator to ratio of extract to raw material 1:2. The anti-inflammatory activity was found by carrageenan–induced paw edema assay on rats. Measurement of paw edema in rats was carried out after 1, 2, 3, 8, 24 hours. All animals were divided into 6 groups. The first group was control pathology (animals that were subplantarly administered solution of carrageenan and intragastrically administered with 0.5 ml/kg of distilled water). The second and third group - animals that were administered carrageenan solution subplantarly and the studied extract was administered intragastrically at a dose of 0.5 ml/kg and 1 ml/kg, respectively. Animals of groups 4 and 5 were administered intragastrically drugs of comparison against the background of the introduction of carrageenan: diclofenac sodium at a dose of 8 mg/kg; The 6 group was consisted of intact animals, which were administered 0.1 ml of saline subplantarly.