Search for analgetics among 1,2,4-triazol-3-thione derivatives containing morpholine and piperidine fragments

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Introduction. An analysis of the literature data over the last decade has shown that the chemistry of N-containing heterocycles attracts significant interest from scientists around the world because of the many valuable properties of those compounds. The nuclei of 1,2,4-triazole, morpholine and piperazine are fragments of a number of known drugs and biologically active compounds. That is why the synthesis and study of physical-chemical, biological properties of compounds containing these heterocyclic fragments are quite relevant both from a theoretical and practical point of view.

Today modern computer technology is widely used in pharmacy. The use of computer technology can significantly increase the efficiency of processing research results by eliminating unpromising compounds with adverse properties and prevent the synthesis of expensive chemical compounds in advance.

The aim of the study is *in silico* research of new heterocyclic derivatives of 1,2,4-triazol-3-thione in order to select molecules for pharmacological screening for analgesic activity.

Materials and methods. The objects of the study were 5-[(R,R`-phenoxy)methyl]-4-(*o*-tolyl)-2-(1-piperidyl(morpholinyl)methyl)-1,2,4-triazole-3-thiones with clorine-, dichloro-, dibromo-substituents in the 5 position of 1,2,4-triazole cycle. The prediction of the spectrum of biological activity and possible side effects was carried out using the Way2Drug, online-program "All Activities" and "Adverse Effects & Toxicity" software package PASS by structural formula of the compound.

Obtained results. According to the results obtained, the choice of objects of study was crowned with success: all 1,2,4-triazole-3-thiones probably have a high potential for manifestation of analgesic activity (Pa=0,780-0,661). All chlorine-containing derivatives have highly possibility (Pa=0.680-0.673) to exhibit a non-opioid type of analgesic activity in the experiment. It should also be noted the possibility of the tested substances to have anticonvulsant activity (Pa=0.554-0.422) and the probable effect of substances on the cardiovascular system: the possibility to block calcium channels (Pa=0.488-0.416), namely N-type calcium channels (Pa=0.590-0.529), be useful in the treatment of atherosclerosis (Pa=0.485-0.411). The probable side effect of the investigated substances is sedative.

Conclusions. *In silico* studies of biological activity and side effects of new 1,2,4-triazole derivatives with heterocyclic fragments indicate the prospects for search for analgetics among them.

Creation of suppositories for the treatment of candidosis

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Introduction. Fungal infections are one from the leading disease in the world. According to the WHO, every fifth inhabitant of the planet suffers from some kind of mycosis. The frequency of these infections is associated with the deterioration of the environmental situation, widespread use of antibiotics, cytostatics, immunosuppressants, an increase in the number of patients with impaired immune system, etc.

The purpose of our researsh was the development of the composition of suppositories containing fluconazol as an API.

Materials and methods. Methods of literary search in scientometric databases are used.

Obtained results. In recent years, the prevalence of candidal infections caused by fungi of the genus *Candida* has especially increased. Clinicians note a tendency towards a steady increase in the incidence of this pathology, frequent recurrence of the process, and indicate that the problem is of an acute medical and social nature, affecting the health of various age groups and population, and their ability to work. In this connection, over the past decade, interest in the treatment and prevention of mucosal candidiasis in such areas of medicine as gynecology, dentistry, ophthalmology and otorhinolaryngology has not only weakened, but also increased significantly. Despite the significant assortment and the possibility of choosing antimycotic drugs, the issues of candidiasis therapy do not lose their relevance and require the introduction of new more effective pharmacological substances for their solution, as well as the creation of drugs on their basis.

The greatest prevalence in the treatment of candidiasis, in comparison with this group, was received by antifungal synthetic drugs, in particular, antimycotics of the imidazole series - clotrimazole, butoconazole, isoconazole, econazole, etc. The main properties of these drugs are their high efficiency and bioavailability. One of the representatives of this group is fluconazole, the superiority of which, in comparison with other antimycotics, has been confirmed by a number of studies.

Conclusions. The purpose of our researsh was the development of the composition of suppositories containing fluconazol as an API. The substantiation of its content in suppositories, as