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ASSESSMENT OF THE ANTIBACTERIAL AND ANTI-FUNGAL ACTIVITY OF THE BIOLOGICALLY ACTIVE SUBSTANCE PREPARED FROM LOCAL PLANT EXTRACTS

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Bakhramova N.N.

Tashkent Scientific Research Institute for vaccines and serums, Uzbekistan

Abidova R.M.

Tashkent Scientific Research Institute for vaccines and serums, Uzbekistan

Ergashov O.I.

Tashkent Scientific Research Institute for vaccines and serums, Uzbekistan

Boymurodov B.T.

Tashkent Scientific Research Institute for vaccines and serums, Uzbekistan

Qalandarova F.S.

Tashkent Scientific Research Institute for vaccines and serums, Uzbekistan

ABSTRACT

In this research work presented, the results obtained in the study of the general pharmacological properties of plant damalamari with anti-anemia activity, in particular, the effect on the an analysis of the literature on antimicrobial and pathogenic fungal activity was carried out. All the studies carried out were carried out in different animals, which serves to increase the reliability level and efficiency values of these experiments. Thus, a fresh decoction, developed on the basis of local medicinal plants, is less poisonous, it is from local tickling, cumulative and allergic effects. At the same time, the possibilities of applying the studied extract damalam against microbes and pathogenic fungi mainly in solution are being studied. The overall safety or non-toxicity of each biologically active substance is important for this reason, in this article we did not dwell in detail on its main activity.

KEYWORDS

General pharmacology plant extract, pathogenic fungal activity, skin resorption, allergic, tickling and cumulative properties.

INTRODUCTION

As you know, anemia is the main health problem, and this disease affects people of all ages, especially pregnant women and children. This cause anemia is one of the most common non-infectious diseases of expectant and lactating mothers to date, as well as in almost the entire segment of newborns. Around the world, various types of Genesis anemia are being suffered by residents in the greater scale area and regions, and this is widely seen as a serious health problem in nursing mothers. Ensuring the iron needs of residents of different young sexes is an important task that does not lose relevance. However, commonly used sources of synthetic iron cause complications, and modern prevention of iron deficiency anemia and pharmacotherapy of this pathology is primarily an urgent problem in the search and implementation of natural-structured substances [1-5]. According to statistics obtained on the basis of epidemiological studies conducted, about 42% of pregnant women worldwide and more than 47% of preschool children suffer from anemia. All types of anemia have serious adverse effects on human health and development, including neonatal and perinatal mortality, underweight, premature birth, and delayed infant development. Clinically, anemias are characterized by a variety of symptoms-notably pallor, fatigue, dizziness, difficulty breathing, shortness of breath, and weakness-and if not treated effectively, anemia contributes to cognitive decline, weakened immunity, and increased mortality [6-12]. A large-scale scientific research has been carried out in our country for many

years to study the pharmaco-toxicological properties of extracts of plants or their biologically active substances. In particular, studies on the treatment of oncological diseases of plant alkaloids [14-18], the search for hepatoprotector agents based on plant flavonoids [19-23] at the same time, a number of advances have been made in the study of neuropsychopharmacological properties [24,25]. In this regard, as a direct continuation of the scientific research work carried out, the activity of plant extracts against anemia in research conditions with the aim of preventing and treating anemia of different etiologies and at different levels was studied [26]. Detection of organ and system hoardiness of extracts with anti-anemia activity was found to study non-occurrence of side effects when chronically administered, as well as not exhibiting their skin resorption, allergy-inducing, and irritating properties. This article details the results of the study on the determination of the general pharmacological indicators described above.

The purpose of the studies carried out is to: assessment of general pharmacological indicators of plant extracts with anti-anemia activity.

Object and methods of research. As an object of research, a tincture of medicinal plants widely used in folk medicine was used: tubules of Hawthorn, Bird taron, sweet brain root, water pepper and medicinal chamomile plants, prepared in a 1:1 ratio.

All studies carried out were carried out on a normal diet under vivarian conditions in rabbits with a body weight of 2-2.5 kg, sea urchins with a body weight of 500 - 600 g, laboratory rats with a body weight of 180-200 g, and mice with a body weight of 18-24 g.

The effect of the studied substance on the central nervous system was carried out in the “open field” method, the methods in which the skin resorption, tickling the mucous membranes and allergic properties are presented in the manuals and methodological recommendations [27].

1. The results obtained in the study of the local tickling property of the substance studied.

The local tickling reaction of the tincture studied was studied in mice, rats and rabbits. To do this, a solution of various concentrations of the studied tincture was applied in doses of 0.25 - 0.5 ml to the skin of animals previously cleaned of feathers and instilled in one eye of rabbits from 2 - 3 drops, and in the other eye-in these conditions-discosted water was instilled. Control was recorded for 2 days. During this time, no reactions associated with visual tickling were recorded on the skin of animals or in the eyes of rabbits.

2. The results of the study of the effect of the studied tincture on the activity of movement and search of experimental animals in the ‘open field’ method.

In the studies carried out, it was demonstrated that this tincture did not adversely affect the activity of movement and search of experimental animals in relation to the control group in all doses studied. This, in turn, makes it possible to conclude that this tincture does not adversely affect the cognitive and motor activity of experimental animals, as well as impair the activity that requires attention.

3. Assessment of the allergic effect of the tincture studied

To determine whether the studied tincture has an allergic effect, drip a solution of flour of various concentrations into the eyes of guinea pigs from 1 - 2 drops, the effect of which on the mucous membrane of the eyes was monitored throughout the day. During the control, what changes in the mucous membrane of the animal eye in the experiment were not recorded.

In subsequent experiments, the tincture made from the collection of plants was repeatedly applied to the skin of guinea pigs, which had previously been cleaned of wool. Experiments have shown that there are no changes characteristic of any apparent allergic reaction to the eye in the repeated drip site of this damalam: redness, rash, inflammation, skin peeling and other reactions that have not occurred. The general condition of the animals did not differ from the general condition of the animals in the control group.

Then the allergic effect of tincture made from plant extracts in guinea pigs was studied using bull whey. For this, the animals in the experiment were sensitized with bull serum. On the 21st day of sensitization, a large dose of bull serum was administered to guinea pigs who had been doused with discarded water or tincture, and allergic reactions of almost the same appearance occurred in both groups of animals. In this, the breathing of animals was aggravated, sneezing appeared, the feathers snapped, and 3 of the 6 guinea pigs in both groups died.

So it turns out that the studied damalam does not have the ability to bring an allergic reaction to the surface or prevent it. Taking into account the fact that several systems of the human body work on the occurrence of an allergic reaction, it is necessary to consider the results obtained in laboratory animals as relatively

relative results when assessing whether the newly studied collection has an allergic effect.

4. Study of the cumulative effect of the herbal collection tincture under study.

Cumulative effect of herbal decoction tincture under study 18 weight 140-170 g.li studied in laboratory rats. herbal collection tincture was administered orally on the first five days of the experiment in the amount of 5 ml/kg. The next five days, however, the drug was administered with a 2-fold dose increase (10 ml/kg). Even in the 3rd and 4th five days of the experiment, the dose of BFC was administered in a volume that was increased 2 more times than in the previous 5-day dose, that is, in doses of 20 ml/kg and 40 ml/kg, respectively.

For a total of 20 days, animals in the experimental group were administered an antianemic collection tincture – a herbal collection tincture, which was being studied at a dose of 375 ml/kg.

The observation over the experiments was carried out during the entire experiment and for another 15 days after the last administered dose of the drug under vivarian conditions. The main focus in this was on the general condition of rats, their desire for food and response reactions to the various constituents given from the outside.

The results were similar to those obtained in the control group of the general condition of animals, their desire for food, response reactions to external constituents.

The last observation from the experiment was made lifeless by animals on the 15th day against the background of mild narcosis, and their internal vital organinig morphological cases were considered. The tests carried out showed that the internal organs of the animals in the experiment did not have any changes.

So, the plant collection under study does not cause any negative and side effects even when the herbal collection tincture is administered to animals in the experiment with a therapeutic dose of more than 15 times its therapeutic dose for 20 days.

Based on the above results, it can be said that herbal decoction is free from cumulative effects.

5. Analysis of antimicrobial and pathogenic fungal activity of herbal tincture.

In this section, based on the data of the studied and analyzed literature, preliminary results of the use of this extract of tincture for pathologies occurring on the skin and mucous membranes are presented [4,5, 28, 29]. Preliminary analysis of extracts of various parts of of herbal tincture in various solvents for antimicrobial activity showed that only the root and leaves showed antibacterial activity. Antifungal activity was demonstrated by the root, fruits and seeds. These parts of the plant were taken for further study. The overall safety or non-toxicity of each biologically active substance is important for this reason, in this article we did not dwell in detail on its main activity.

Conclusions. Medicinal plant tincture experimental animals were found to have no tickling effect on the skin and mucous membranes. Also, in the studies carried out, it did not show an allergic and cumulative nature, and it can be concluded that there is also no negative effect on the cognitive indicators of experimental animals, while in the same period of movement and search.

Thus, a fresh decoction, developed on the basis of local medicinal plants, is less poisonous, it is from local tickling, cumulative and allergic effects.

Preliminary analysis of extracts of various parts of of herbal tincture in various solvents for antimicrobial

activity showed that only the root and leaves showed antibacterial activity. Antifungal activity was demonstrated by the root, fruits and seeds. These parts of the plant were taken for further study.

The overall safety or non-toxicity of each biologically active substance is important for this reason, in this article we did not dwell in detail on its main activity.

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