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ACHILLEA MILLEFOLIUM L., POLYGONUM AVICULARE L., GLYCYRRHIZA GLABRA L., POLYGONUM HYDROPIPER L. , MATRICARIA CHAMOMILLA L. STUDY OF THE EFFECT OF NEW COLLECTION ON ANEMIA, OBTAINED ON THE BASIS OF PLANTS

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The effect of the phytoferon drug on the course of hemolytic anemia at doses of 5 and 10 mg/kg was studied in laboratory rats. Based on the results obtained, on the 15th day of the experiment, Phytopheron at a dose of 5 mg/kg increased the amount of hemoglobin in the peripheral blood by 0.9 g % compared to the state of anemia, and the amount of erythrocytes by 0.3 mln, respectively. It was found that increased by, while at a dose of 10 mg/kg, the amount of hemoglobin and erythrocytes increased more intensively by 1.3 g % and by 0.45 mln, respectively. On the 30th day of the experiment, however, its stimulating effect on hematopoiesis was further increased, noting that the amount of hemoglobin increased by 2.3 g % and 3.4 g%, respectively, according to the indicators of the state of anemia. The amount of erythrocytes in the peripheral blood was also observed to increase to 0.85 mln and 1 mln respectively on the 15th and 30th days of the experiment compared to the indicators of the state of anemia. Under the influence of phytopheron, negative changes in the morphology of erythrocytes and leukocytes were significantly reduced.

Key words: phytopheron, hemolytic anemia, drug, coamide, rat, peripheral blood, phenylhydrazine, hemoglobin, erythrocyte, leukocyte.

According to data from the World Health Organization, today, people with iron deficiency anemia (TTA), which occurs as a result of a decrease and lack of iron content in anemia, account for 1.8 billion of the world's population and 90% of anemia. In particular, this type of anemia is also common in Central Asian countries. TTA is especially common among pregnant women and young children, and its medical social significance negatively affects the health of the future generation and the economic – social development of the

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VOLUME-3, ISSUE-6

Republic. Therefore, it is of great importance to develop drugs that are used to treat anemia using local hom ingredients. In the treatment of iron deficiency anemia, synthetic and herbal-based drugs are widely used in medicine. But most of them are considered synthetic drugs. Synthetic drugs are more likely to cause non-specific effects on the body compared to natural drugs due to their separation by chemical synthesis. Therefore, iron deficiency anemia of preparations from medicinal plants is of great importance in pharmacotherapy, which are widely used in medicine for the purpose of prevention and complex treatment of this disease.

The purpose of the work: to study the effect of the drug Phytoferon on hemolytic anemia in laboratory rats and analyze the results obtained.

Experimental method: Phytoferon drug tubule-bearing yoke (Achillea millefolium L.), kushtaron (Polygonum aviculare L.), sweet brain (Glycyrrhiza glabra L.), water pepper (Polygonum hydropiper L.) and medicinal chamomile (Matricaria chamomilla L.) consists of dry extracts of plants. The effect of the drug phytoferon with phenylhydrazine on surface hemolytic anemia is 165,0-200,5 g it was studied in vivarian conditions in 24 rats. A model of anemia with phenylhydrazine chlorohydrate on the surface was brought under the skin of rats by administering phenylhydrazine chlorohydrate from a 1% solution at doses of 25 mg/kg daily for 5 days. Once the phenylhydrazine anemia model was brought to the surface, the rats in the experiment were separated into 4 groups of 6: the Group 1 rats were given the Phytoferon drug 5 mg/kg, Group 2 at doses of 10 mg/kg orally for 30 days. Aloxida group rats were administered orally with distilled water and, for comparison purposes, the drug coamide, which was widely used in medicine to treat hemolytic anemia. Blood tests were carried out until phenylhydrazine chlorohydrate was administered, phenylhydrazine anemia was brought to the surface, and drug treatment was carried out on the 15th and 30th day. The main focus in this was on the general condition of rats, the amount of hemoglobin in the peripheral blood and the amount of leukocytes. The amount of hemoglobin in the blood was counted on a special hemometer, the number of erythrocytes and leukocytes was counted on a microscope.

Results of the experiment: when the sung peripheral blood-shaped elements were examined from oral administration of phenylhydrain to intact rats for 5 days, it was found that the amount of hemoglobin and erythrocytes in rats decreased dramatically. In particular, the hemoglobin content in the peripheral blood of rats in the experiment is up to 3.8 g%, and

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the erythrocyte content is 4.4 mln. decreased to (Table 1). It was noted that neutrophil leukocytosis in the blood developed poykilocytosis, hypochromia and anisocytosis (Table 2).

The general condition of rats in the experiment was much worse after the administration of phenylhydrazine hydrochloride, their appearance was completely different from that of rats in the control-Intact Group. Symptoms of inflammation have been noted around the nose and eyes, with their hairs regressing.

Peripheral blood tests conducted on the 6th day of the experiment showed a sharp decrease in hemoglobin and erythrocyte levels in rats. In particular, the hemoglobin content in the peripheral blood of rats in the experiment is up to 3.8 g%, and the erythrocyte content is 4.4 mln. decreased to. Neutrophil leukocytosis in the blood was associated with the development of paikilocytosis, hypochromia and anisocytosis, and 43% reported mortality (table 1). The Phytoferon drug was then administered orally at a dose of 5 mg/kg to experimental rats for 30 days. Based on blood analyzes obtained on the 15th day of treatment, the amount of hemoglobin in the peripheral blood of rats is 0.9 g % compared to the indicator of the state of anemia, and the amount of erythrocytes is 0.3 mln. increased to. Under the influence of the drug at a dose of 10 mg/kg, the amount of hemoglobin and erythrocytes in the peripheral blood of rats became more intense and was found to increase by 1.3 g % and 0.45 mln, respectively (Table 1). Negative changes in the morphology of erythrocytes and leukocytes decreased significantly (Table 2).

On the 30th day of treatment, the amount of hemoglobin and erythrocytes increased further, respectively, at doses of 5 and 10 mg/kg, the amount of hemoglobin in the liver increased by 2.3 g % and 3.4 g%, the amount of erythrocytes increased by 0.85 mln and 1 mln, the morphology of erythrocytes returned to normal, while leukocytes were around the physiological norm. (Table 1).

As a comparative drug, the antianemic drug coamide was selected. On the 15th day of the experiment under the action of the drug coamide (3 mg/kg), it was observed that the amount of hemoglobin in the peripheral blood increased by 3.5% compared to the indicator of the state of anemia. And the amount of erythrocytes approached intact indicators (Table 1). When blood tests of control group rats were tested, it was found that the indicators in this group were almost no different from those of ham anemia on the 30th day of the experiment.

Morphological changes in red blood and white blood cells under the influence of phytoferon and coamide drugs also returned to the norm, namely leukocytosis, poykilocytosis, hypochromia and anisocytosis, and no deaths were recorded (Table 2).

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VOLUME-3, ISSUE-6

The results obtained showed that the drug Phytoferon has such an effective antianemic effect as the drug coamide, which is widely used in the treatment of hemolytic anemia in the studied doses. It is known from the literature that the effectiveness of the drug coamide in hemolytic anemia is associated with the microelement of cobalt in its composition. The microelement cobalt enhances the Binding of iron to heme. Medicinal plants containing phytoferon contain a sufficient level of cobalt microelement (2.4 - 3.1 %) of ham and, in addition, copper and zinc elements that are actively involved in the absorption of iron. In our opinion, it is with this that the antianemic effectiveness of the drug Phytoferon in hemolytic anemia can be attributed.

Conclusions.

1. The phytoferon drug has a stimulating effect on the increase in hemoglobin and erythrocyte levels at doses of 5 and 10 mg/kg in the evening of hemolytic anemia.

2. The antianemic effectiveness of the phytoferon drug in hemolytic anemia is noted more strongly at a dose of 10 mg/kg.

3. Phytoferon was found not to be inferior to the drug coamide in terms of antianemic efficacy in the course of hemolytic anemia.

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THE MULTIDISCIPLINARY JOURNAL OF SCIENCE AND TECHNOLOGY

VOLUME-3, ISSUE-6

Table 1.

The effect of the drug phytoferon on blood-shaped elements in the hemolytic type of anemia, M±m, n=6

Pointers	Intact	FHA	Post-treatment of peripheral blood-shaped elements							
			On Day 15				On Day 30			
			FHA+ Control	FHA+ 5 mg/kg "Phytoferon"	FHA+ 10 mg/kg "Phytoferon"	FHA+ 3 mg/kg Coamide	FHA+ Control	FHA+ 5 mg/kg "Phytoferon"	FHA+ 10 mg/kg "Phytoferon"	FHA+ 3 mg/kg Coamide
Hemoglobin, g%	12,1±0.40	3,8±0.29	4,3±0.41	4,7±0.42	5,1±0.64*	7,3±0.81*	5,4±0,7* 3/7 dead	7,0±0.56*	8,56±0.50*	8,8±0.77*
Erythrocytes, million	6,5±0.41	4,4±0.31	4,7±0.75	5,2±0.57	5,5±0.36	5,3±0.42	4,9±0,4 3/7 dead	5,6±0.78	5,9±0.34*	6,3±0.54*
Leukocytes, Thousand	11.5±1.24	22.3±1.87	13.5±1.21*	13.0±1.04*	13.5±0.64*	14.2±0.74*	12.5±0,74 3/7 dead	12.3±0.6*	12.3±0.68*	12.3±0.5*

* - P<0.05 accuracy; vs. FHA (phenylhydrazine anemia)

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THE MULTIDISCIPLINARY JOURNAL OF SCIENCE AND TECHNOLOGY

VOLUME-3, ISSUE-6

Table 2.

The effect of the drug phytoferon on the indicators of white blood cells in the hemolytic type of anemia, M±m, n=6

Pointers	Intact	FHA	Post-treatment							
			On Day 15				On Day 30			
			FHA + Control	FHA+ 5 mg/kg "Phytoferon"	FHA+ Control	FHA + 5 mg/kg "Phytoferon"	FHA+ Control	FHA+ 5 mg/kg "Phytoferon"	FHA+ Control	FHA+ 5 mg/kg "Phytoferon"
Rod cores	1.0	1.7	2.0	2.5*	2.0	2.1*	3.0*	1.3	1,.5	1.0*
Basophiles	1.5	1.5	1.25	1.5	1.0*	1.5	1.2	1.25	1.5	2.0*
Eosinophils	2.5	2.0	1.25*	1.0*	0.75*	2.5	0.5*	1.0*	1.25*	1.0*
Lymphocytes	28.5	44.0	43.5	29.5*	32.0*	28.5*	37.5	29.5*	30.0*	29.5*
Sigment nucleoli	64.0	78.3	43.0*	56.0*	57.5*	60.0*	69.5*	71.0*	72.5*	73.5*

* - P<0.05 accuracy; vs. FHA (phenylhydrazine anemia)

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THE MULTIDISCIPLINARY JOURNAL OF SCIENCE AND TECHNOLOGY
VOLUME-3, ISSUE-6

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Kh. O. Darmanov

ACHILLEA MILLEFOLIUM L., POLYGONUM AVICULARE L., GLYCYRRHIZA GLABRA L., POLYGONUM HYDROPIPER L. , MATRICARIA CHAMOMILLA L. UNTERSUCHUNG DER WIRKUNG EINER NEUEN SAMMLUNG AUF ANÄMIE, DIE AUF PFLANZENBASIS GEWONNEN WURDE

Die Wirkung des Phytoferon-Arzneimittels auf den Verlauf der hämolytischen Anämie in Dosen von 5 und 10 mg/kg wurde an Laborratten untersucht. Basierend auf den erhaltenen Ergebnissen erhöhte Phytopheron am 15. Tag des Experiments in einer Dosis von 5 mg/kg

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THE MULTIDISCIPLINARY JOURNAL OF SCIENCE AND TECHNOLOGY

VOLUME-3, ISSUE-6

die Hämoglobinmenge im peripheren Blut um 0,9 g % im Vergleich zum Zustand der Anämie bzw. die Erythrozytenmenge um 0,3 ml. Es wurde festgestellt, dass bei einer Dosis von 10 mg/kg die Menge an Hämoglobin und Erythrozyten um 1,3 g % bzw. um 0,45 ml intensiver zunahm. Am 30. Tag des Experiments war jedoch seine stimulierende Wirkung auf die Hämatopoese weiter erhöht, wobei festgestellt wurde, dass die Hämoglobinmenge entsprechend den Indikatoren für den Anämiezustand um 2,3 g % bzw. 3,4 g% anstieg. Es wurde auch beobachtet, dass die Menge an Erythrozyten im peripheren Blut am 15. und 30. Tag des Experiments im Vergleich zu den Indikatoren für den Anämiezustand auf 0,85 mio. bzw. 1 mio. anstieg. Unter dem Einfluss von Phytopheron wurden negative Veränderungen in der Morphologie von Erythrozyten und Leukozyten signifikant reduziert.

Schlüsselwörter: Phytopheron, hämolytische Anämie, Medikament, Coamid, Ratte, peripheres Blut, Phenylhydrazin, Hämoglobin, Erythrozyten, Leukozyten.

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ACHİLLEA MİLLEFOLİUM L., POLYGONUM AVİCULARE L., GLYCYRRHİZA GLABRA L., POLYGONUM HYDROPİPER L. , MATRİCARİA CHAMOMİLLA L. BİTKİLER BAZINDA ELDE EDİLEN YENİ KOLEKSİYONUN ANEMİ ÜZERİNDEKİ ETKİSİNİN İNCELENMESİ

Fitoferon ilacının hemolitik anemi seyri üzerindeki 5 ve 10 mg / kg dozlarındaki etkisi laboratuvar sıçanlarında incelenmiştir. Elde edilen sonuçlara dayanarak, deneyin 15. gününde, 5 mg / kg'lık bir dozda Fitoferon, periferik kandaki hemoglobin miktarını anemi durumuna göre% 0,9 g ve eritrosit miktarını sırasıyla 0,3 milyon artırdı. 10 mg / kg'lık bir dozda hemoglobin ve eritrosit miktarının sırasıyla% 1.3 g ve 0.45 mln daha yoğun bir şekilde arttığı bulundu. Bununla birlikte, deneyin 30. gününde, hematopoez üzerindeki uyarıcı etkisi, anemi durumunun göstergelerine göre hemoglobin miktarının sırasıyla% 2.3 g ve% 3.4 g arttığını belirterek daha da artmıştır. Periferik kandaki eritrosit miktarının da, anemi durumunun göstergelerine kıyasla deneyin 15. ve 30. günlerinde sırasıyla 0.85 mln ve 1 mln'ye yükseldiği gözlendi. Fitoferonun etkisi altında, eritrositlerin ve lökositlerin morfolojisindeki olumsuz değişiklikler önemli ölçüde azaldı.

Anahtar kelimeler: fitoferon, hemolitik anemi, ilaç, koamid, sıçan, periferik kan, fenilhidrazin, hemoglobin, eritrosit, lökosit.