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Effect on the Organism When Chronic Administration of a New Phytopreparation

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ABSTRACT

Medicinal plants play an important role in traditional and modern medicine. Herba Meliloti l. and Achillea filipendulind L. dry extracts did not show any specific changes related to the histostructure of vital internal organs and the effects on organs. Correspondingly, some changes were observed in the organs of rats in the control group. These changes may be related to the conditions of the food and animals in the vivarium, because these changes were noted at the same level in the vital organs of the animals of both control and experimental groups. The studied dry extract did not cause drug-related pathological changes in animals at the studied doses (100 and 500 mg/kg). Taking into account that some of the noted changes are transient, it is possible to apply the dry extract of the studied plant collection to medical practice.

Introduction. Medicinal plants play an important role in traditional and modern medicine. About 80 percent of the world's population uses herbal preparations as an antioxidant [1], anti-inflammatory, for the prevention and treatment of gastric damage [2,3,4,5,6], as an anti-stress sedative [4], as a horse driver, as a hepatoprotector. [7,8,9], in the treatment of diabetes, it is used as a prokinetic[10], hemostatic agent[11]. Medicinal plants serve as sources of raw materials for the production of direct therapeutic agents and more complex compounds, models for new synthetic products, and taxonomic characters. The use of indigenous medicinal plants reduces the dependence of developing countries on drug imports[13]. The term medicinal plants includes various types of plants used in herbalism, and some of these plants have medicinal properties. These medicinal plants have rich constituents that can be used in drug development and synthesis. In addition, these plants play an important role in the development of human culture throughout the world. In addition, some plants are considered to be an important source of nutrition and as a result these plants are recommended for their therapeutic value [13,14,15,16,17]. Herba Mileloti L. is a leguminous plant belonging to the Fabaceae family. Medicinal clover or yellow clover (Melilotus officinalis L.), white clover (Melilotus albus Med) and tall clover (Melilotus aliissimus Thuill) are available. The plant is a biennial plant that grows in the mountainous regions of Tashkent, Samarkand, Fergana, Andijan and Kashkadarya regions on the banks of rivers, streams, gardens and roadsides, and reaches a height of 20-100 cm. When

the plant blooms, the upper part of the ground is harvested and the shade is dried on the ground. The Kashgarbeda plant and medicinal substances obtained from it have been and are being widely used in the medicine of the peoples of the world and in scientific medicine for their diuretic, anti-inflammatory, wound regeneration accelerating, bleeding enhancing and other effects.

A tincture made from the Kashgarbeda plant and its flowers is used in Bulgaria for chronic bronchitis, for the prevention of various kidney and urinary bladder pains, for the treatment of arterial blood pressure, migraine, and pathological conditions associated with climax. Cultivated in southern Europe, the leaves and flowers of the saffron are widely used in cooking. It is added to various desserts and cheeses to give it a full flavor. In France, preparations made from this plant and its flowers are used as antispasmodics and anticoagulants, and in cooking - to give flavor and color to culinary products. In Austria, it is called "honey alfalfa" and it is used for stomach and intestinal diseases, chronic bronchitis, and for the purpose of giving aromatic flavor to food. In Germany, the flowering top of the plant was widely used in chronic bronchitis, skin diseases and as a laxative, and in Poland, it was widely used for various headaches, heart palpitations and pain, insomnia, hemorrhoids and other ailments. Kashgarbeda is widely used not only in European countries, but also in Asian countries. For example, in India, decoctions and tinctures of kashqarbeda plant were used as a laxative, gas expeller, and for bleeding disorders. Herba Millefolii L. - mixed flowers, belongs to the Compositae family.

It is a tall perennial plant with a unique scent, 20 - 50 cm tall. The flowers of the plant are white, sometimes pink, and small, emerging from the ends of the stems and stamens, forming basket-shaped flowers. When the plant blooms, it is cut with a sickle. Sometimes the leaves of the root bush are collected separately and dried in a cool place. The finished product consists of the above-ground part of the plant. The product contains essential oil, alkaloids, carotene, vitamins K and C, a small amount of choline, asparagine, acotinate and other acids, resin, bitter and astringent substances, glycosides, sesquiterpenes, polysaccharides and flavonoids[18,19,20,21,22 ,23,24,25]

There are more than 150 species of tall plants in the world. Examples include Achillea millefolii, Achillea atrata, Achillea nobilis, Achillea chrysocoma Friv., Achillea filipendulind L., Achillea umbellata sibth. et Smith), Keller's gorse (Achillea kelleri), ptarmica gorse (Achillea ptarmica L.), Serbian gorse (Achillea serbica Heim), Santolina gorse (Achillea santolina L.) and others can be cited. The plant is cultivated in England and Austria. It is included in the pharmacopoeia of countries such as Russia, Ukraine, the Netherlands, Sweden, France, Romania and Austria. The bojmodaran plant is recorded in various forms in the territory of Central Asia and in Kazakhstan. There are Biberstein, ordinary oblong, and ordinary oblong species of the biberstein plant, which are widely distributed in the desert and semi-desert zones of Central Asia and Kazakhstan, on the banks of rivers and streams, on mountain slopes and hills. One of the most common types of sedum plant in our Republic is the common sedum [26,27,28,29,30,31].

The purpose of this work. The effect of the dry extract of the studied compound upon chronic administration to the body was studied, focusing on the peripheral blood elements of the drug (hemoglobin, erythrocyte, leukocyte and leukoformula), blood coagulation and urine analysis, as well as the general condition of the animals.

Materials and methods. The plants included in the studied collection have been widely used in folk medicine and scientific medicine for many years in the treatment of various diseases and are still being used. According to the purpose, we divided the experimental rats into 12 groups (6 males and 6 females). Group 1 rats were the control group and received distilled water for 30 days (at the rate of 2-4 ml/mass), groups 2 and 3 received oral gavage of 100 and 500 mg/kg of the studied dry extract, respectively, for 30 days. sent with

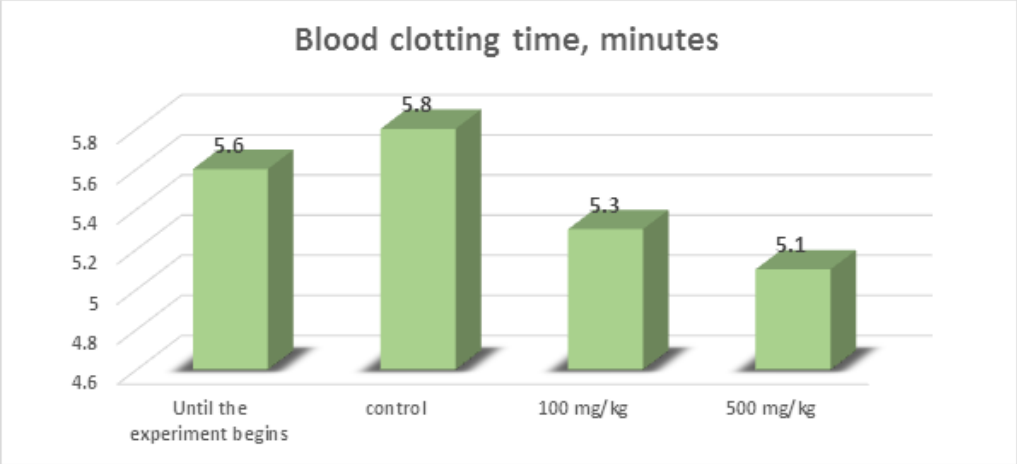
Blood was taken from experimental rats for general analysis before drug administration and 15 and 30 days after drug administration. On the 15th and 30th days of the experiment**,** the rats were withdrawn again, and urine was collected and analyzed.

Results and their discussion. The conducted analyzes showed that the studied dry extract does not have a negative effect on the peripheral elements of the blood. The studied drug increased the number of red blood cells and hemoglobin (by 7-13%) on the 15th and 30th days of the experiment, but these results were around the physiological norm. Almost no changes were noted in Kon's white blood cells. At the same time, although the blood clotting time was partially accelerated in the 15-30 days of the experiment, this result was not at the level of mathematical accuracy.

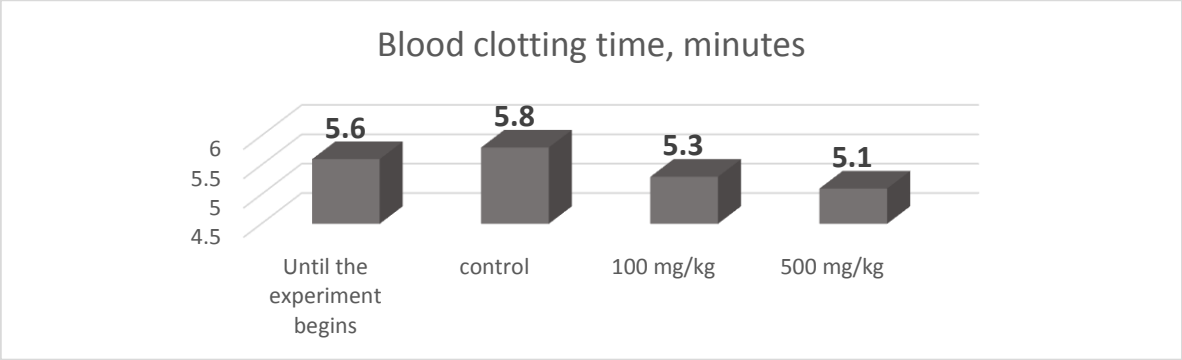
Changes in pH and color of urine, protein and other deposits in its vicinity were not noted. Analysis of the weight of the rats in the control group and the experimental group showed that there was an increase in their weight. At the end of the experiment, the bioelectrical activity of the heart in all three groups of rats was examined by ECG, and it was found that the study extract did not have any negative effect on the work of the heart (according to the ECG). At the end of the experiment, rats in the experimental and control groups were euthanized by decapitation, and small pieces of the brain and vital internal organs were removed and placed in 12% formalin solution to study their histomorphology. Then histopreparations were prepared from these organs using special processing and methods and given to histomorphologists for analysis.

The general state of the internal organs of rats and their macroscopic analysis showed that there were no significant changes in these organs. The appearance of the analyzed histopreparations did not differ from each other, and the relative weights of the internal organs did not differ. All layers of the stomach wall look good. Folds with pits are visible on the mucous membrane, the surface of which is covered with a single-layer cylindrical epithelium. Tubular glands are located in the private layer of the mucous membrane. Overlay and additional cells can be seen in it. The histostructure of the stomach was normal, no dystrophic and destructive changes were noted. All the membranes of the small intestine were visible, the villi were well preserved in the mucosa, and they were covered with a single layer of cylindrical striated epithelium. In the cells, the cytoplasm and nuclei are clearly visible. No significant changes were noted in the other layers of the mucosa, as in the control group. In the morphology of the liver, liver plates and sinusoids are oriented radially towards the center of the liver, hepatocytes contain one or two nuclei. In the nucleus, chromatin is visible as very small granules. Blood-shaped elements are visible in the sinusoid capillaries. Alimentary dystrophy is noted in some preparations.

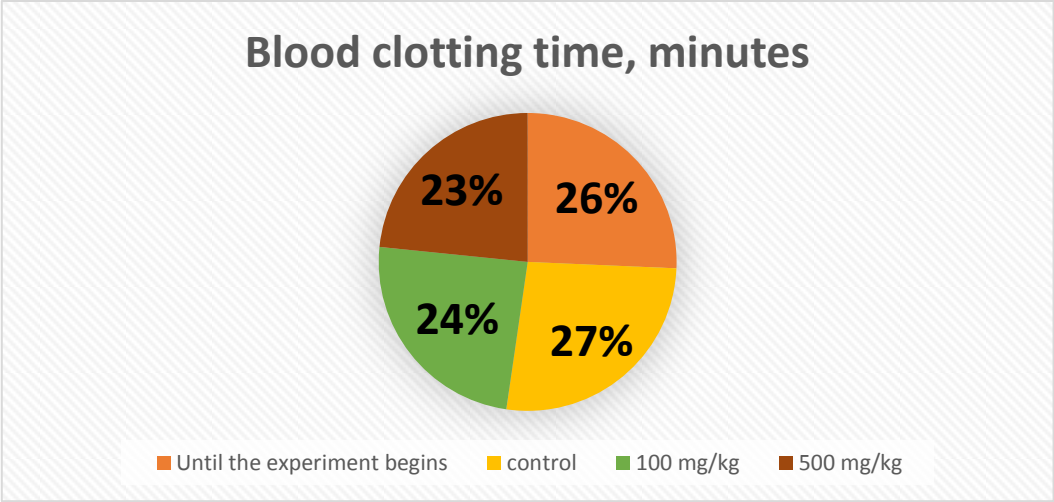
When the studied dry extract is administered chronically, it Effects on peripheral blood parameters Hemoglobin, gr% on the 15th day of the experiment



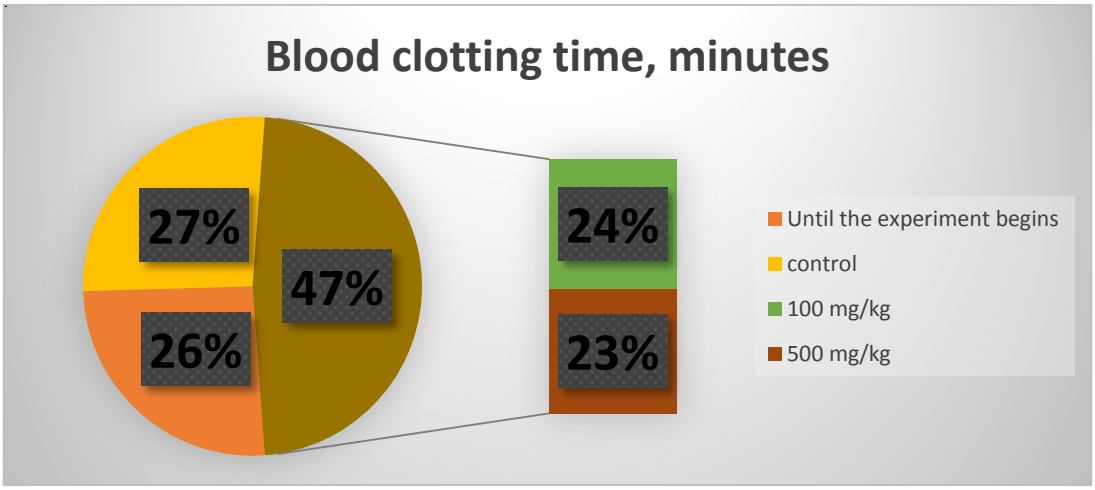
When the studied dry extract is administered chronically, it Effects on peripheral blood parameters Hemoglobin, gr% on the 30th day of the experiment



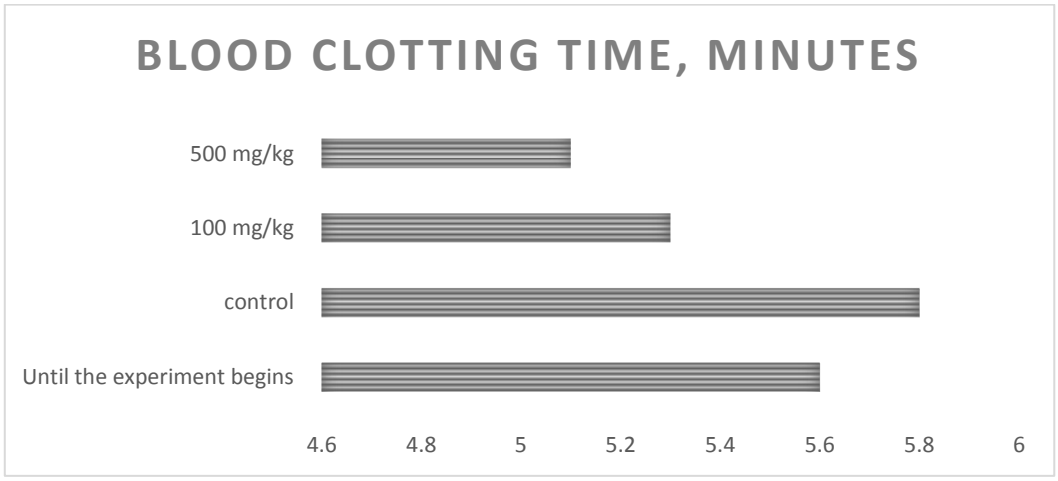
When the studied dry extract is administered chronically, it 15 days of the experiment on peripheral blood indicators of erythrocytes



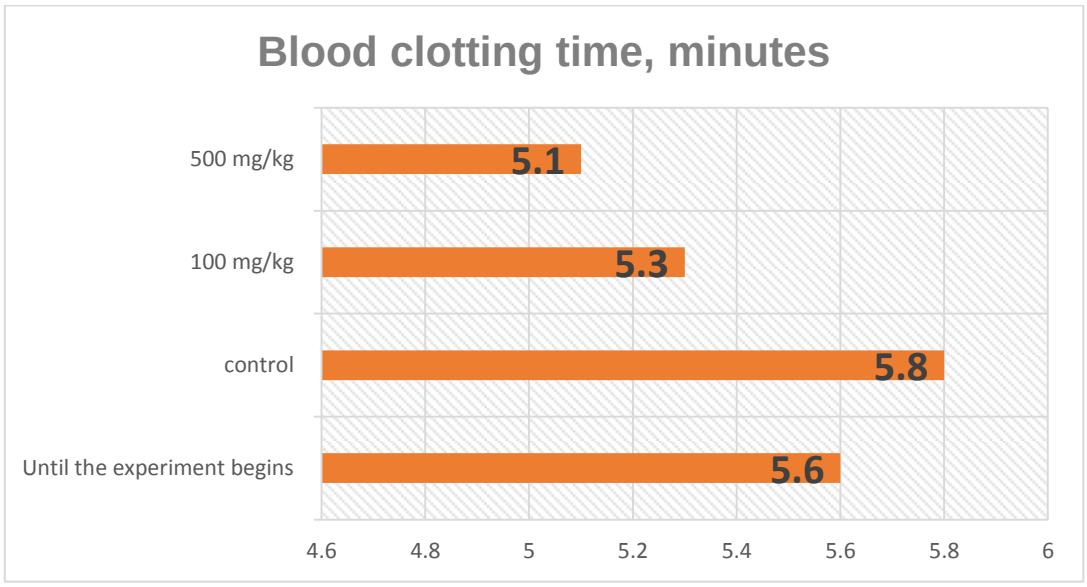
When the studied dry extract is administered chronically, it 30 days of the experiment on peripheral blood indicators of erythrocytes



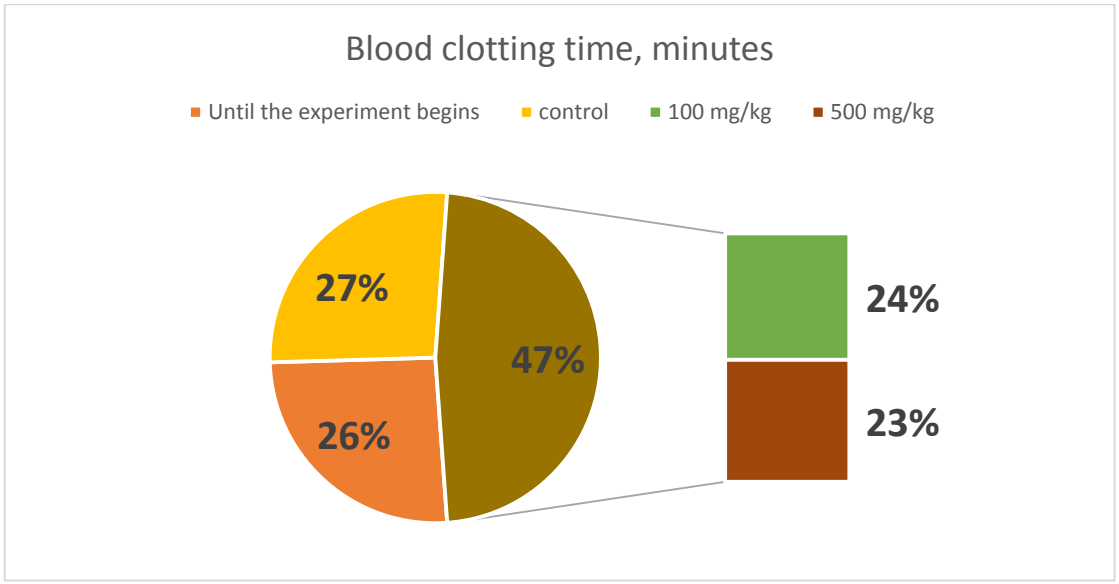
When the studied dry extract is administered chronically, it The effect on peripheral blood leukocytes on the 15th day of the experiment



When the studied dry extract is administered chronically, it The effect on peripheral blood leukocytes on the 30 th day of the experiment



When the studied dry extract is administered chronically, it 15 days of experience in the minutes of the effect on the peripheral blood indicators



When the studied dry extract is administered chronically, it 30 days of experience in the minutes of the effect on the peripheral blood indicators

Kidney skin and pulp are clearly visible. The cavity of Shumlyansky and Bauman's capsules is slightly enlarged. Shaped elements of blood are sometimes visible inside the capillaries. No other changes were noted in the kidney as in the control group.

There are white and red pulps in the black spleen preparation, and the white pulp is composed of a collection of round and oval-shaped lymphoid cells. In the sinusoidal capillaries of the red pulp, decomposing erythrocytes can be seen. These conditions were fully reflected in preparations prepared from internal organs of animals in the control group.

The myocardium and epicardium of the heart are clearly visible. In it, cardiomyocytes consisting of myofibrils were in a normal state, and no dystrophic changes were noted in them. Nuclei are located in the center of the cell in myofibrils. Some capillaries are slightly dilated, and blood clots are visible in them.

The wall of the alveoli of the lungs consists of thin plates, the capillaries around them are significantly expanded, and blood-shaped elements are located inside. The walls of the bronchi are made of cylindrical epithelia, around which hyperplasia consisting of lymphoid infiltrate is noted.

Conclusion: The study of the histostructure of vital internal organs in general did not show any specific changes in the structure of these organs related to the effect of the studied dry extract. Some of the above-mentioned changes were also observed in the organs of rats in the control group. These changes may be related to the conditions of the food and animals in the vivarium, because these changes were noted at the same level in the vital organs of the animals of both control and experimental groups.

Therefore, the studied dry extract did not cause pathological changes related to the drug in the studied doses (100 and 500 mg/kg) in the animal body. Taking into account that some of the noted changes are transient, it is possible to apply the dry extract of the studied plant collection to medical practice..

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