



The Effect of the Antiseptic Stimulator Dorogov on the Mammalian Body (Literature Review)

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ABSTRACT

Studied magazines, materials of scientific conferences, as well as other information sources for the collection of reliable information about the actions of biogenic stimulants on the body of mammals on the example of an antiseptic-stimulant of Dorogov.

Keywords:

Biogenic stimulators, tissue therapy, antiseptic-stimulant of Dorogov

The purpose of the study: to study the role of biogenic stimulants on metabolic processes and physiological functions of organs on the example of the antiseptic stimulator Dorogov.

Materials and methods. Information sources devoted to biostimulating agents and materials related to the study of tissue therapy agents were used.

Results and discussion. Socio-environmental factors lead to a progressive increase in the number of human and animal diseases and increasingly actualize the problem of obtaining biologically active substances to correct metabolism and immunity [10].

The research of the Russian scientist academician V.P. Filatov and his colleagues discovered a new group of natural biologically active substances called "biogenic stimulants". These drugs have found their application in various fields of modern clinical medicine in the form of preparations of plant, animal and mixed origin [8].

Among the existing means of tissue therapy, the drug ASD occupies a special place. It is a powerful stimulant of vital functions of the body, both with oral and parenteral methods of administration. When applied topically, it has an antiseptic effect in addition to stimulating. The drug has neither histological nor species specificity.

The tissue drug ASD (antiseptic stimulator Dorogov) is an original drug manufactured according to a special technique developed by Candidate of Veterinary Sciences A.V. Dorogov (RES) in 1948. The drug ASD is a product of thermal decomposition (dry distillation) of animal tissues (meat and bone meal, meat and bone waste from slaughterhouses of biocombinates, as well as various organs and organs animal tissues). ASD is produced by biofactories in the form of two fractions: ASD F-2 (for indoor and outdoor use) and ASD F-3 (for outdoor use) [1]. ASD fraction 2 is a drug from the group of immunomodulators. For the first time, this drug was manufactured by a medical scientist

A.V. Dorogov. He obtained the active substance from the body of river frogs by heating them in a special apparatus [16].

The drug ASD-2F has been widely and successfully used in veterinary medicine for more than sixty years, however, there is still no unambiguous recognized opinion about the chemical composition of this fraction, which significantly limits the possible scope of its application and makes it difficult to reliably determine quality indicators [1,2,5,6,12].

The use of the chromatography-mass spectrometry method [3,4,16] made it possible to obtain the most complete, to date, description of the chemical composition of the "organic part" of ASD-2F, including 121 substances.

The drug ASD fraction-2 has a high pharmacological activity and is low-toxic [12]. According to the information given in the reference book of M.D. Mashkovsky "Medicines", ASD (fraction 3) has local anti-inflammatory, keratolytic activity, stimulates the regeneration of the epidermis; it is prescribed externally in pure form and in the form of ointments and pastes of various concentrations for psoriasis, eczema (in the subacute and chronic stages), neurodermatitis [14].

The drug has a multifaceted effect on the body. Thus, when studying gas and energy metabolism in dogs [13], to which the drug ASD F-2 was administered at a dose of 100 mg / kg together with feed for 3 and 9 months (according to the Dorogov scheme), an increase in the value of pulmonary gas exchange, an increase in the arterio-venous difference of oxygen and oxygen capacity of blood, an increase in consumption was found oxygen by tissues.

In experiments on mice and guinea pigs (3. I. Deryabina, 1966), it was revealed that the drug ASD F-2 in moderate doses causes excitation of the central nervous system and its higher vegetative centers with signs of motor restlessness of animals, increased secretion of digestive glands, increased peristalsis, sweating, urination (M-cholinomimetic effects).

The effect of the drug ASD F-2 on the secretory and motor functions of the stomach

has been studied in sufficient detail in dogs with isolated stomachs according to I. P. Pavlov and gastric fistulas.

The stimulating effect of the drug ASD on many physiological functions of the body, namely, the strengthening of the processes of digestion and absorption of nutrients, the strengthening of oxidative processes and metabolism in the body of animals served as the basis for the use of this drug in animal husbandry in order to stimulate the growth and development of young animals [15].

The drug ASD F-2 stimulates not only physiological, but also immunobiological reactions in the body. Administration of the drug ASD F-2 to horse producers during their immunization with diphtheria and tetanus toxoid increases the titer of antitoxic sera [18].

In addition, ASD paste 5% is a drug that successfully competes in strength with glucocorticoids, but has a sharp unpleasant odor [7].

A comprehensive morphological, immunohistochemical and morphometric study of the skin of male and female rats and guinea pigs was carried out at the end of daily applications of a paste containing 5% ASD fraction 3 for 14 days. It was established – increased proliferation of keratinocytes, – an increase in the cellular density of the dermis and expansion of the vessels of the microcirculatory bed with an increase in their blood supply. The specific pharmacological dermatotropic effects of the paste with 5% ASD manifest themselves equally in both mammalian species used in the presented experiment [9].

In order to increase the effectiveness of prevention of all major complications of chemotherapy, namely: myelotoxicity, anemia, nausea and vomiting and restoration of the "biological balance" of the body during and after chemotherapy, it is proposed to use small doses of the biogenic stimulant ASD-f2 with the addition of novocaine according to the method of A.E. Gurov [11].

Studies show that ASD-2F, electroactivated with colloidal silver ions, has increased therapeutic properties and biocidal action [17].

Conclusion. The preparation of ASD F-2 and ASD F-3 is a product of deep thermal decomposition of protein and contains low molecular weight nitrogenous organic and inorganic compounds. The composition of ASD F-2 includes low-boiling fatty carboxylic acids in the form of ammonium salts and amides. The composition of ASD F-3 includes neutral compounds of hydrocarbons and ketones, pyridine bases and phenols. All these compounds lose their affinity with the original protein and have neither histological nor species specificity. They are not exposed to the action of proteolytic enzymes of the gastrointestinal tract (since the latter are not able to break down protein so deeply) and are absorbed into the blood unchanged. The biochemical mechanism of the pharmacological action of these low-molecular compounds on the body has not yet been clarified.

The drug has a multifaceted effect on the body. It increases metabolism and oxidative processes, increases the reserve alkalinity in the blood, which contributes to the normalization of metabolism in tissues, improves digestion, absorption of nutrients, stimulates the activity of the heart and respiration. The drug causes an improvement in the functional state of the mechanisms of natural resistance, enhances the processes of tissue regeneration, stimulates immunogenesis, resulting in increased resistance to adverse effects, including pathogens of infectious diseases. Stimulation of physiological functions and immunobiological reactions is carried out through the nervous system, which reacts to the introduction of very small doses of the drug. The high sensitivity of the nervous system, apparently, is due to a change in the activity of its enzyme systems and, first of all, redox enzymes. Speaking about ASD fraction 2 and its immunomodulatory properties, experimental studies are not yet sufficient. Therefore, further, deeper study of the chemical structure of the drug ASD, the isolation of active substances in pure form, the study of the biochemical mechanism of the pharmacological action of this drug will allow

us to develop more rational recommendations for the use of the drug in medicine.

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