

Materials of Conferences

**EXPERIMENTAL ESTIMATION
OF INSECTOACARICID ACTIVITY
OF VETERINARY PHARMACEUTICALS
FOR TREATMENT OF LABORATORY
RATS' COMPLEX EXOPARASITOSE**

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The most important link in structure of medico-biological experiment is laboratory animals. Requirements of scientists to quality of laboratory animals, to their standardization on a genotype, maintenance and feeding conditions, testability on micro-flora and parasitic organisms now have essentially increased. Laboratory animals are subject to various diseases. For example, very common situations are exogenous parasitoses, such as trichodectoses and sarcoptoses. Frequently sarcoptoses and trichodectoses meet in association. Despite the many new pharmaceuticals for treatment of this exoparasitoses in the Russian veterinary market, there are no accurate schemes of treatment and dosages for rodents. Summarising the above-stated and considering a wide circulation of sarcoptoses and trichodectoses, it was found expedient to investigate a spectrum of insecticid and acaricid activity of preparations accessible in veterinary drugstores of Volgograd (Russia). It is revealed, that the most presented preparations are «NeoStomosan», «Celandin Sprey», «Leopard», «Frontline Sprey» and «Zoopowder Puldis». Three from these («Leopard», «NeoStomosan», «Zoopowder Puldis») have been chosen for estimation of acaricid and insecticid effects. All preparations are recommended for struggle with parasitic invasions of cats and dogs whereas an exact dosage for small rodents is not revealed.

The experiments were carried out on 120 out-breed sexually mature male rats (190-210 g), according to the international norms and rules of work with vertebrate animals (Strasbourg, 1999). It was confirmed clinically and morphologically that all animals were parasitized with the following: sarcoptes bodies, ears, superciliary arches and expressed diffuse trichodectoses. Animals have been divided into 4 equivalent groups. Animals of the first group were exposed by the «Leopard» spray, the second group – by «Leopard» drops, the third group was processed by «Puldis», and the fourth group – by «NeoStomosan». The degree of parasitic invasion was estimated every day on an original scale by «Estimations of an external condition of laboratory animals» within 6 days.

Our results indicate that the activity degree of the investigated preparations can be distributed as: «Leopard» > «Puldis» > «NeoStomosan», and by

efficiency (the speed of full clearing from parasites) – as: «Puldis» > «Leopard» > «NeoStomosan».

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**PROBLEMS OF ADEQUATE ACCESS
TO A MOUTH OF LABORATORY
ANIMALS FOR ORAL CAVITY
PATHOLOGY MODELING**

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Experimental researches are a component of many scientific works in all areas of medicine and biology. Various kinds of dental pathology are studied on biological models, new dental technologies are developed. Morphological features of a structure dentoalveolar system of the basic objects of medical and biologic experiments (mice, rats, porpoises and hamsters) create some difficulties at modeling in experimental dental. Thus, working out of methods of adequate access to a mouth of small laboratory animals for modeling of dental pathologies is represented an actual problem.

The purpose of the present research was the estimation of adequacy of access to a mouth of laboratory rodents and creation of designs allowing solving a problem of difficulties of this access. The ways described in the literature, are widely used at anatomization of laboratory animals mouth, and consist in introduction in a rodent mouth the structures allowing accurately fix it (metal dilators are directly in mouth, behind the top and bottom cutters). These ways are simple – dilators are “legs” of surgical tweezers. However, these techniques are inefficient in a therapy. Clamps of jaws are the metal designs which are directly in a rodent mouth and, thus, being additional obstacle of access to it. This is the first main lack of available techniques. The second lack is a mechanical influence on the oral cavity mucous membrane, creating additional trauma of soft fabrics. And, at last, the third physical and biochemical lack consists in occurrence of process of electroplating process in an animal mouth. We had been developed an original design, with the account morphofunctional features of rodents' maxillofacial area which pluses are: an arrangement of clamps of jaws out of an animal oral cavity; clamps are made of a soft material.

Thus, results of our work were technique working out and the design creation, which efficiency in experimental conditions consists in al-

most unimpeded access in an oral cavity of small laboratory animals.

Now the futility of the method of repeated modeling of dental pathology is proved, due to the fact that the animal in the first complex experiments are killed either immediately or after (within 2-3 days). Consequently it is almost impossible to spend a number of numerous modeling a tooth pathology at a rodent, for revealing of dynamics of this disease and, as consequence, the forecast of efficiency of this or that method of therapy. The design developed by us allows lowering considerably probability of undesirable consequences of modeling on dental system of laboratory rodents.

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VALUE ASPECTS OF HEALTH

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Health is our natural, absolute, and perpetual value that occupies the highest position in an hierarchy stairs of values. As the society develops and prosperity level grows the awareness of health value also increases. Health nowadays is one of the necessary conditions of active, creative life of full value. Human's health is, first of all, the process of saving and development of his psychological and physiological characteristics, optimal work condition and social activity along with the maximum life duration. Health is determined by the following factors: human's biological abilities; social climate and environmental conditions. Studying factors that influence human's health is the basis of health science [1, 2, 6, 7, 10, et.c.].

Denial of health concepts polarization into health and disease required new scientific developments. Creation of health learning became necessary. A single learning of human's health can be conditionally defined as *health science*. It includes a whole complex of science that have the following characteristics: relation and cooperation with other human sciences; presence of integrative characteristic, system of scientific knowledge and strategy; multi-levelness: the presence of theoretical, practical, and organization levels; diversity of health influence means (formation, saving, strengthening, restoration).

The object of health science is human's health in its all normal and pathological displays, in person's interaction with his environment that is studied in order to reveal the reasons, conditions, and legislations of his reserve abilities alteration. The matter of health science are health criterions that allow us quantitatively and qualitatively evaluate health or its dynamic trends along with the alterations in vital functions forms [11, 12, 13 et.c.].

In general, health criterions, according to A.L. Dimova are: for somatic and physical – *I can*, for psychological – *I want*; for moral – *I must*. Besides, the following characteristics of health are outlined: specific (immune) and non-specific steadiness to damage factors impact; growth and development indexes; functional condition and reserve organism capabilities; presence of any disease and the level of moral-will and value-oriented settings.

People's health condition is dependent on individual way of life, environmental factors influence. Reserves of human's health sustain is in the way of life organization, that is defined by medical culture, including person's knowledge of genetic, physiologic, psychological organism's abilities, control and preservation of psycho-physiological status and health strengthening methods, skills to spread medical-biological knowledge in one's communication circle and social environment in a whole [16].

Health is also dependent on inherited and obtained conditions, adaptive and protective mechanisms disturbances, ecology, upbringing, and also on endogenous and exogenous factors that may have both positive and negative impact on it.

However, the analysis of Russian population health condition, according to the data of official statistics and the results of epidemicological research («Demographic yearbook of Russia...», 1995-2000; «Healthcare of Russian Federation», 200; «Analytic material of State Statistic Committee», 2002; Governmental report «On sanitary epidemic conditions in Russian Federation in 2001») show, that it is much worse than in most of industrially-developed countries and its further worsening should be expected unless the conditions that influence health are significantly improved. The greatest importance is referred to factors that are related with environment and the way of life, as these factors can be corrected on both population and individual level.

All that testifies the new need for a new strategy of preventive measures aimed for the increase in individual population activity in practical mastering of skills and knowledge of healthy way of life, the formation of social awareness that is oriented for the healthy way of life, increase in a human's health improvement culture.

Way of life represents the method of individual or group vital functioning in unity of the objective and subjective. Under the way of life we mean stable, formed under certain social-ecological conditions means of human's vital functioning, that is displayed in norms of communication, behavior, way of thinking.

According to E.N. Wayner [10], the concept of the way of life should be defined as a method of human's vital functioning that one follows in his everyday life because of social, cultural, material, and professional conditions. In this definition we should outline a culture aspect showing that way of life does not equals its conditions that only provide