THE PROTEIN METABOLISM INDICATORS AND CELLULAR IMMUNITY STATE OF RABBITS INCASE OF *TREPONEMA CUNICULI*

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Due to such well-known peculiarities of the physiology of rabbits as fast-growing, the intensity of growth, good acclimatization ability, polyestrous ability, rabbit breeding is considered a perspective livestock industry, which provides the population with dietary meat, produces fur and fluff [1, 2]. The parameters of protein metabolism of rabbits are influenced by many factors: breed, season of the year, age, conditions of maintenance, feeding diet, reproductive period and diseases [1, 3]. The spirochaetosis of rabbits is widespread and affects animals in size of from 3-5% to 30%, and sometimes even 90% in individual rabbit breeding farms [4-6].

The experimental part of the work was performed in LLC "Albest" of the Dnepropetrovsk region during 2016-2019. The study was conducted on male rabbits of California breed of 3-4 months of age, selected on the basis of analogs. In order to determine the level of infection of rabbits by *Treponema cuniculi*, their excrement was investigated by the MacMaster method and divided into two groups: healthy animals (control group) and sick animals (research group). The count of T-and B-lymphocytes was determined by the method of spontaneous rosette-formation with sheep erythrocytes.

We found that during spirochaetosis of rabbits it was: low total protein content of 14,76% ($p<0.001$), albumin – by 8.15% ($p<0.01$,), creatinine – by13,08% ($p<0,01$); increasing of the concentration of α_1- globulins by 4.31% ($p<0.01$), γ-globulins – by 6.14% ($p<0.05$), urea – by 1.86 times ($p<0,01$), uric acid – by 1.56 times ($p<0,05$). We revealed characteristic changes in the protein metabolism of rabbits associated with the negative effect of the causative agent and its toxins on organism of the animal.

Spirochaetosis in male rabbits caused significant changes in the count of T- and B-lymphocytes. It was established that an increase in the number of lymphocytes was observed in the blood of rabbits with spirochaetosis, mainly because of a possible increase in B-lymphocytes by 30.57% ($p<0.001$). In the blood of animals of the experimental groups, there was an increase in the number of T-lymphocytes by 35.42% ($p<0.01$) due to T-helpers, which increased by 1.82 times, which indicates the activation of the immune system of rabbits. In effected animals showed a significant

decrease in O-lymphocytes to 8.07% ($p<0.001$) and the percentage of T-suppressors – up to 15.00% ($p<0.01$), compared with healthy ones. This redistribution in the population of T-cells led to an increasing of the immunoregulatory index in rabbits of the experimental group by 4 times than in healthy ones. Sick animals have T-active blood lymphocytes more 23.85% than in the control one.

In general, the results of studies showed that effect of the pathogen *Treponema cuniculi* in the blood of rabbits led to an increase in T-and B-lymphocytes, T-helper cells and T-active, against the background of a decrease in B-lymphocytes and T-suppressors. Such redistribution of lymphocyte populations suggests an immune response to parasitism of spirochaeta.

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