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# THE INFLUENCE OF HELMINTOSES ON SOME PHYSIOLOGICAL INDICATORS OF KORAKOL LAMBS

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**Abstract**: In the article, the effects and consequences of marshallagiosis, nematodirosis and Habertia helminthosis found in Karakol sheep on some physiological parameters (body temperature, heart rate and respiratory rate) are studied.

**Keywords.** Karakol lambs, heartbeat, pul's, anticoagulation, preimaginal, postimaginal period, helminthosis, habertia, nematodirosis, marshallagiosis.

**Purpose:** Determination of physiological indicators in Karakol lambs.

**Relevance of the topic.** Reversible biochemical reactions of metabolism take place in two directions, that is, with the breakdown and synthesis of high and low molecular compounds. Decomposition reactions are accompanied by the absorption of heat (endothermic), and vice versa, in the process of synthesis, in most cases, they are accompanied by the release of heat (exothermic).

Catalysts of biochemical reactions play a decisive role in the metabolism of matter and energy. Enzymes, hormones, vitamins, infectious and invasive diseases affect changes in body temperature.

Karakol lambs, like other mammals, have an isothermic body temperature, which ensures relative constant temperature for all organs and tissues, regardless of changes in the external temperature, is one of the active systems of life. Thermoregulation independent of external environmental conditions is provided by physiological mechanisms. The main role in the control of substance and energy metabolism is played by the nervous system, so the occurrence of isotherm depends on the development of the nervous system.

**Research materials and methods.** 25 Karakol sheeps aged 3-6 months were selected for the experiment. 12 of them were affected by marshallagiosis and nematodirosis, and 10 by Habertia larvae. The 3rd one was not damaged and was left as an experimental option.

All lambs used in the experiment were taken and fed in conditions free of other natural helminths. Distribution of lambs into experimental and control groups was carried out taking into account the sex, age, and live weight of the animals.

Normally, body temperature depends on the ratio of heat generated to heat released, and overnight variations in body temperature were measured rectally in animals.

The temperature of the internal organs, which undergo rapid exchange, is always higher than the average body temperature, and the temperature of the skin is lower. The overnight temperature changes reflect the main processes such as changes in the body's pulse, oxygen intake, blood sugar levels, and nitrogen removal from the body.

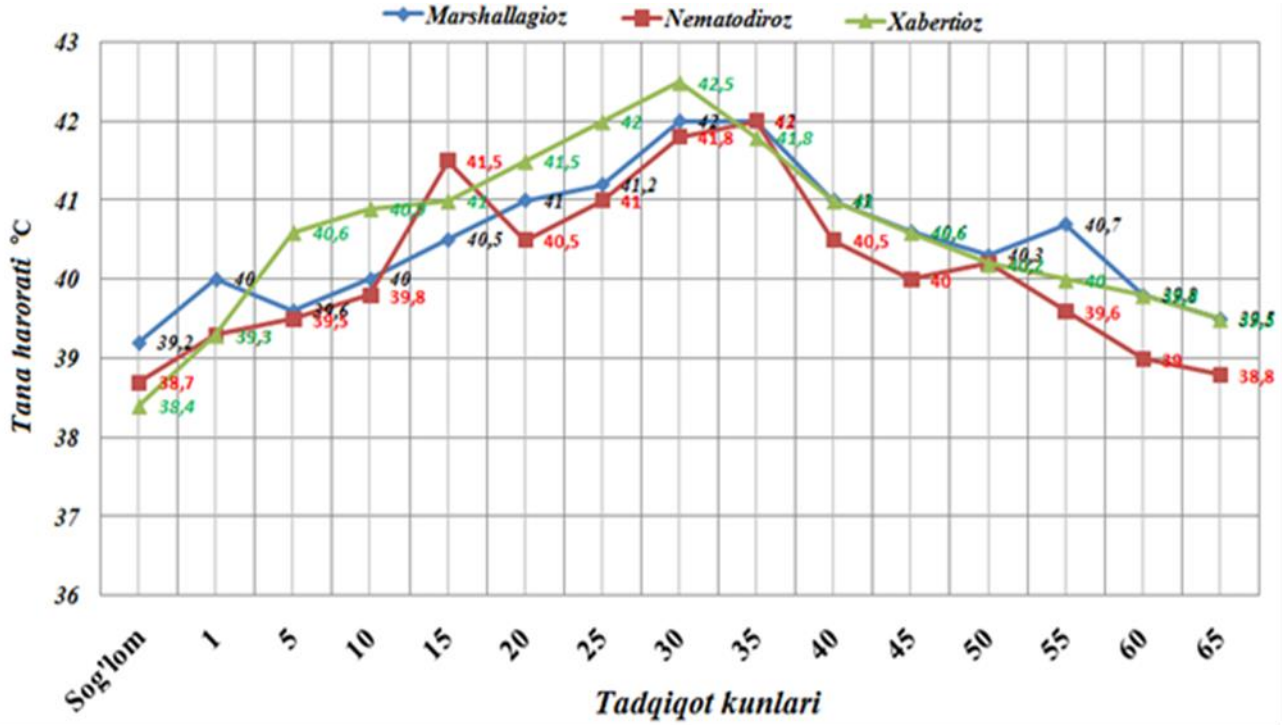
As a result of various factors (infectious and invasive) the violation of thermoregulation, body temperature exceeding the normal level is called fever or malaria. At this time, the process of metabolism in the body increases, especially the breakdown of proteins increases. An increase in the products of the breakdown of proteins in the blood creates a negative nitrogen balance, and the protein minimum increases. The metabolism of carbohydrates and fats is accelerated, which accelerates the conversion of stored glycogen into glucose, and as a result, the body of sheep becomes thinner.

Increased breakdown of proteins and fats leads to the accumulation of intermediate products of metabolism in the body. Physiological functions are disturbed during fever or malaria. The heart beats faster, which causes an increase in blood pressure, breathing becomes faster.

**Research results.** In our research, we studied the dynamics of changes in body temperature during parasite infestation in Karakol lambs with experimental helminthosis (marshallagiosis, nematodirosis, and habertiosis). The dynamics of temperature changes in them changed differently during the research periods. When determining the body temperature of Karakol lambs before infection with helminths, the average temperature of the first group was 39.2 0s, that of the second group was 38.7°C, and that of the third group was 38.4°C. The body temperature of lambs in

the first group was 0.5°C higher than the second group, and 0.8°C higher than the third group. (Graph 1). The fact that the body temperature of lambs in all three groups is in accordance with the information given in the literature indicates that they are within the norm.

Body temperature parameters of Karakol lambs infected with helminthiasis.




Then, the body temperature of the lambs in the first group infected with helminthiasis (marshallagiosis) was 40°C on the first day, and 39.3°C in the second (nematodirosis) and third (habertiosis) groups. As can be seen from the given numbers, body temperature was expected to be slightly lower in all three groups. When we measured the body temperature on the fifth day of the study, it was found that the high temperature was 40°C lower in black lambs with habertiosis, 1.1°C lower in lambs with nematodirosis, and 1.2°C lower in lambs with marshallagiosis. By the tenth day of observation, lambs with marshallagiosis reached an average of 40°C s, this indicator increased by 0.8°C compared to the first. In lambs with nematodirosis, it was 0.2°C less than in the first group, and in the group with habertiosis, it was found to be 0.9°C higher than in the 1st group. By the tenth day, the temperature of the lambs started to increase, albeit partially, due to the beginning of activity of helminthosis (diagram 1).

On the fifteenth day of our observations, the highest temperature was 41.00s in the group with nematodirosis, 41.00s in the haberteriosis, and 40.50s in the lambs of the first group. By the 20th day of the invasion period, a slight decrease of 1.0°C was observed in lambs with nematodirosis, and an increase of 0.5°C in the other groups. By the twenty-fifth day of the study, the body temperature of lambs in all groups was higher than 40°C. Especially in group 3 lambs with habertiosis, we observed that the body temperature was higher than 42°C. In the remaining 1st and 2nd groups, the average was 41.0-41.2°C. By the 30-35th day of the invasion period, the body temperature continued to rise. We witnessed that it was lower by 42.0 °C in Karakol lambs infected with marshallagiosis and nematodirosis, and by 0.2 °C in lambs with habertiosis compared to other groups. We can mention that comparing the mentioned parameters with the initial data, lambs in group 1 increased to 2.8 °C, in group 2 to 3.2 °C, and in group 3 to 3.4 °C. During this period, the general condition of Karakol lambs was observed to be weak, loss of appetite.

On the 40-45th day of the experiment, compared to the 35th day, we can see that the body temperature of the Karakol lambs in all three groups started to decrease a little. It differed by 1.4 0c in the marshallagiosis group, 2.0 °C in the nematodirosis group, and 1.2 °C in the habertiosis group. During the 50-55th day, the body temperature remained almost unchanged. By 60-65 days, the body temperature of the lambs began to drop, and the average body temperature of the Karakol lambs in the group with marshallagiosis was 39.5 °C, which is not much compared to the initial temperature, i.e. it differed by 0.3 °C. In lambs with nematodirosis, on this day of the study, we witnessed that the body temperature decreased to 38.8 °C, and we can see that this condition is 0.10 °C higher than the initial value. It was observed that the body temperature of lambs belonging to group 3 with habertiosis was 39.5 °C slightly higher than that of other groups, and compared to the initial data, it was 1.1 °C higher, and it was found that the effects of helminthosis were observed in them even by 65 days.

## Summary

Analyzing the obtained results, we can conclude that the body temperature of Karakol lambs infected with experimental helminths during the experiment increased significantly by 30-34 days, which means that they coincided with the period of reproduction of helminths in their body. During this period, it is explained

by the violation of absorption processes in the gastrointestinal system, the passage of inflammatory processes caused by toxins secreted by parasites. Physiological and clinical manifestations of helminthosis in the body of Karakol lambs mainly depend on the individual resistance of the animal body, as well as the intensity of the invasion and, of course, the age of the animal.

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