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Treatment and Prevention Measures for Anoplocephalitis in Sheep and Goats

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Abstract

In this article, the effectiveness of anthelmintic drugs that have been and are being used in the treatment and prevention of anoplotcephalitis in sheep and goats is studied and analyzed. According to the analyzed literature, more than 200 different drugs have been tested in the treatment of monesiosis. Among the currently widely used drugs, high efficiency has been achieved using anthelmintic drugs such as albendazole, fenasal, fenbendazole, praziquantel, niclosamide, ricobendazole, clozalben, alvet suspension, moniesin, helmitcid, metsalbin, luxbendazole, levozan oral, nilzash s forte, monezol.

Keywords: Anoplotcephalatosis, monieziosis, tizaneziosis, avitelliniosis, anthelmintic, helminth, helminthosis.

Introduction

Satisfying the world's population's demand for quality livestock products, producing ecologically clean products, first of all maintaining the health of existing animals, protecting them from various infectious, non-infectious and invasive diseases is one of the most important tasks. For this purpose, theoretical and practical study of animal anoplocephalitases, one of the invasive diseases with a wide distribution among large and small horned animals, is of great importance.

The purpose of the study is to analyze the various anthelmintic drugs used in the treatment and prevention of anoplotcephalatoses of sheep and goats based on literature data.

The level of study of the problem. The chemical method is still widely used in the fight against helminths and their prevention. The author noted that in the treatment of monesiosis, a suspension of cuproferra and albendazole at a dose of 5 mg/kg albendazole and 20 ml of cuproferra against M.expansa and M.benedeni showed 100% effectiveness against their imaginal stage [4; 15-18-p]. According to the analyzed literature, more than 200 different drugs have been tested in the treatment of monesiosis [3; 19-36-p].

According to another author, fenasal, albendazole, fenbendazole and praziquantel have recently been noted as drugs that are effective against anaplocephalatoses [2; 9-22-p].

According to the data provided by the researchers who tested the drug Fenasal, when administered at a dose of 3 g per animal, the drug achieved 83.0 - 84.8% efficacy against avitellinosis and 90% against tysaniasis. The excretion of cestodes from the animal's body stopped 2 - 3 days after administration of the drug [9; 63-65-p.].

According to the results of studies by another author, Fenasal was proven to be 100% effective against monesiosis when used individually in a dose of 100 - 150 mg / kg, and in groups in a dose of 150 - 200 mg / kg with feed [10; 120-124-p.].

Scientists of the Russian State Institute of Veterinary Medicine have synthesized the highly effective drugs fenalidone, fenapeg, fenadek against monesiosis. These drugs are distinguished by their high anthelmintic properties compared to other drugs [8; p. 59].

According to the results of helminthological studies, it was found that the drug niclosamide was 100% effective against M.expansa when used at a dose of 100 mg/kg. It was reported that the clinical signs of monesiosis completely disappeared 7 days after the drug was used [21; p. 137-139].

Another group of authors used the anthelmintic drug alben super at a dose of 30 mg/kg against monesiosis in sheep and achieved an efficacy of 75% [11; p. 229-230].

Another author achieved 100% efficacy against monesiosis in sheep using ricobendazole (albendazole sulfoxide) at a dose of 3–4 mg/kg [13; pp. 270–271].

In one study, the authors reported that in New Zealand, a combination of praziquantel and levamisole in suspension at a dose of 3.75 mg/kg against M.expansa completely eliminated the monesia present in the body. In another study, albendazole + levamisole and oxclozanide + levamisole were found to be less effective against M.expansa [23; pp. 112–115].

When 10 sheep were treated with praziquantel at a dose of 3.75 mg/kg against monesiosis, all were found to be free of monesia at slaughter 6 days later. In untreated sheep, M.benedeni and M.expansa were found [19; 59-63-p].

According to the World Health Organization (WHO), praziquantel is the most effective drug for the treatment of human and animal cestodes [5; 9-22-p].

The researcher used the anthelmintic drugs Pisulfan and Susalin to treat monesiosis in sheep. When Pisulfan was administered orally at a dose of 100 mg/kg, the extensive efficacy was 75-100%, and the intense efficacy was 84.2-100%. At the same dose, Susalin was 75-90%; 86.4-95.6%, respectively [6; 157-160-p].

Alpemed was administered orally at doses of 50 and 75 mg/kg for sheep helminthiasis, with an efficacy of 100% [1; 26-29-p].

The efficacy of albendazole for sheep monesiosis was 83.2-100%. Even when the dose of albendazole was exceeded by 3-5 times in lambs, no adverse effects were observed. This allows the simultaneous use of albendazole-containing drugs in large groups of animals [14; 209-221-p].

The anticestocidal effect of the helminthic drug for sheep monesiosis was noted to be 91.0-95.4% when administered at a dose of 5 mg/kg, and 96.5-100% at a dose of 7.5 mg/kg [12; 296-274-p].

The World Organization of Veterinary Parasitology classifies anthelmintics used in veterinary medicine according to their effectiveness as follows.

Highly effective is more than 98%, effective is 90-98%, relatively effective is 80-89%, and low effective is less than 80%. This indicator should be taken into account in terms of the dose per 1 kg of animal body weight. According to the authors, when assessing the effectiveness of drugs, it is necessary to pay attention to the condition and maintenance of animals, treatment, drug dosage and other indicators. After helminthic examination of the feces of animals, they should be divided into experimental and control groups, with no less than 7-10 animals in each group. Experimental animals should be selected strictly according to the principle of analogues, taking into account the

sex, breed, age, body weight, and degree of infection. Experimental animals should be kept in the same conditions, on the same diet for 14 days from the beginning to the end of the experiment [7; 31-35-p].

According to the foreign author, after conducting a questionnaire survey in more than 130 sheep farms, it was found that 92.3% of farms used anthelmintic drugs against helminths. It was known that on average, one dose of anthelmintic drugs was used per head of animal per year.

According to the results of the conducted studies, the body weight of 60% of sheep was estimated by eye. In the treatment of monesiosis in sheep, benzimidazole compounds abermectin, pyrantel, morantel, levamisole and tetramise were used [15; 153-173-p].

Another author stated that when albendazole was administered to 120 sheep at a dose of 4.75 mg/kg, 99% of Hemonx, Ostertagia, Cooperium, Bunostoma, and Habertia were affected, 93% of Trichocephalus, and 88% of Moniesia. In another variant, when used at a dose of 9.5 mg/kg, they found in their experiments that it was 100% effective against dicrocelium, cestodes and nematodes. [25; p. 49-53].

When the author used albendazole at a dose of 5 mg/kg for sheep and 7.5 mg/kg for cattle, the efficiency was 96.2-100% [20; 229-233-b].

In recent years, studies have shown that benzimidazole drugs, namely mebendazole, are effective against cestodes, including monesia. A group of scientists have proven in their studies that [18; pp. 313-316, 24; pp. 702-703, 16; 1164 -1166-p., 17; 753-754-p].

A foreign researcher used the drug niclosamide at a dose of 100 mg/kg against M.benedeni and M.expansa, and then tested it for helminthology, which showed 100% effectiveness. After 7 days of drug administration, the animals later noted the disappearance of clinical signs of monesiosis [26; pp. 25-34].

Another group of authors observed negative effects such as the failure of the pigs to consume feed, tympany of the large abdomen, and swelling of the head when using Fenasal against pigs at a rate of 7-8 g per head [23; p. 71-74].

Conclusion

Thus, in recent years, a large number of anthelmintic drugs have been tested for the treatment and prevention of anoplocephalatosis in animals. Some of these drugs are not widely used in practice due to their high toxicity and high cost. It has become known that currently, more imported drugs are used, such as albendazole, fenasal, moniesin, fenbendazole and others. One of the important tasks today is to establish the production of anthelmintic drugs with high cestodocidal properties for the treatment and prevention of anoplocephalatosis.

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