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CLINICAL AND MORPHOLOGICAL CHARACTERISTICS OF GASTROENTERITIS IN CALVES AND THEIR THERAPY WITH TERFUMENS

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ABSTRACT: According to the Russian Veterinary Department (V.P. Inozemtsev et al., 2000), the incidence rate on Russian farms in 1999 was high, with the percentage of cattle suffering from digestive diseases being 39.8. According to veterinary reports, 10.9-13% of calves died in the herd turnover in 1998-1999. The death rate was usually due to non-communicable diseases. Their share was 86.6% of the total number of dead livestock, and the percentage of deaths due to digestive diseases was 51.3. One of the most important areas of modern veterinary science is the development and improvement of means and methods for early diagnosis of diseases in young farm animals and, on this basis, the creation of a reliable system of protection against diseases, among which gastroenteritis is most often recorded (V.P. Shishkov, 1974, 1981, 1987; V.P. Urban et al., 1984; G.G. Shcherbakov, 1984; I.M. Karput et al., 1989; A.G. Shakhov et al., 1995, 2000; S.M. Suleimanov et al., 1998, 1999, 2000; P.A. Parshin, 1999, 2000).

Gastroenteritis affects young animals of all species and age groups. In calves, the disease most often occurs at the age of 2 weeks, and occurs in acute and chronic forms (P.A. Parshin, 1999). However, insufficient study of the clinical and morphological characteristics of gastroenteritis in young animals does not allow the development of scientifically based methods for their therapy and prevention.

In the therapy of gastroenteritis in young animals, the fight against opportunistic microflora with the predominant use of chemotherapeutic agents, which can significantly reduce the incidence, is of great importance. 5

However, with their long-term and unsystematic use in practice, the colonization resistance of microorganisms increases, thereby reducing the effectiveness of existing drugs (M.I. Nemchenko, 1987; A.G. Shakhov et al., 1996). Therefore, a constant search for new, preferably complex drugs for the prevention and therapy of gastrointestinal diseases, and in particular gastroenteritis, in calves is necessary.

In this regard, preparations based on macrolides attract special attention. These include terfumen and terfumen-2, consisting of macrolides (tylosin, erythromycin), sulfonamides (sulfadimezine) and an energy substrate (glucose). They have a pronounced bacteriostatic and bactericidal effect on pathogens of gastrointestinal and respiratory diseases and increase the general non-specific resistance of animals (A.G. Shakhov et al., 1996; I.Kh. Rakhmonov, 1998). However, insufficient study of terfumens and morphological changes in the digestive organs of calves with gastroenteritis and its therapy

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with new complex preparations - terfumen and terfumen-2 does not allow the development of scientifically based methods for their use in gastroenteritis in calves.

CONCLUSIONS

Gastroenteritis in calves aged 15-25 days is predominantly acute, while at the age of 46-60 days it is chronic. Acute gastroenteritis in dairy calves was accompanied by digestive disorders, exhaustion, dehydration, acute catarrhal-necrotic inflammation of the gastrointestinal mucosa, hemodynamic disorders and dystrophy of parenchymatous organs. In acute gastroenteritis, the hematocrit content in the blood increased significantly to 50.2±3.5%, leukocytes - to 19 thousand / mm, and the total protein content decreased to 52.8 g / l.

In acute catarrhal-necrotic gastroenteritis of calves, the thickness of the abomasal mucosa increased to 406.1 ± 17.6 μm, the depth of the crypts of the jejunum - to 297.9 + 12.6 μm. In the mucosa of the small intestine, catarrhal enteritis was accompanied by a significant decrease in the activity of hydrolytic enzymes and the content of nucleoproteins. In the large intestine, hypersecretion of goblet cells and their dystrophy in the mucosa of the colon were noted. In the liver, necrobiotic changes were accompanied by a sharp decrease in the content of glycogen and the activity of hydrolytic enzymes. 3. In chronic gastroenteritis in calves aged 45-60 days, digestive disorders were characterized by diarrhea alternating with constipation, a lot of mucus in the feces, sometimes with blood, weakening of intestinal peristalsis, emaciation, general weakness of the body, swelling of the mucous membrane of the gastrointestinal tract with hemorrhages, fibrinous deposits and ulcerations. Necrobiotic and dystrophic processes predominated in the liver, and proliferative lymphoid accumulations in the perivascular zones in the kidneys. 101

Long-term use of terfumen and terfumen-2 in clinically healthy calves in doses exceeding the therapeutic dose by 2 times did not have a negative effect on the morphological composition of the blood and the level of the humoral link of immunity, on the course of carbohydrate, lipid and protein metabolism processes, as well as on the functional state of the liver and kidneys.

The optimal prophylactic dose of terfumen for gastroenteritis in calves is 50 mg / kg of body weight once a day orally before feeding for 10-12 days. Terfumen-2 at a dose of 50 mg / kg according to the same scheme is also effective in preventing this pathology.

The optimal therapeutic dose of terfumen for gastroenteritis in calves is 100 mg / kg of body weight twice a day orally for 8-10 days. Terfumen-2 according to the same scheme at a dose of 100 mg / kg is also effective in the treatment of this pathology.

The therapeutic effectiveness of the drugs terfumen and terfumen-2 is accompanied by normalization of the functions of the hematopoietic organs, prevention of inflammatory processes, activation of immune protection and a significant increase in the level of non-specific resistance of the calves' body.

The therapeutic effectiveness of terfumen for gastroenteritis in calves was within 66.7-80%, and terfumen-2 - 85.7-90%.

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The preventive effectiveness of terfumen for gastroenteritis in calves was 70%, and terfumen-2 - 72%. At the same time, metabolic processes in the body of calves noticeably improve, the hemoglobin content increases by 3.2%, erythrocytes by 37.9%, with a decrease in the leukocyte content by 12.3% due to band neutrophils (19.3%) and eosinophils (25%), and the serum proteinogram is normalized due to an increase in alpha (40.2%) and beta-globulin (25.8%) fractions.

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