

RESISTANCE AND IMMUNOGENESIS IN CALVES VACCINATED WITH AN ASSOCIATED RADIOVACCINE AGAINST COLIBACILLOSIS AND SALMONELLOSIS.

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Annotation. The use of the associated vaccine leads to a stable increase in the body's natural resistance against bacterial diseases in young farm animals. The use of an associated vaccine leads to the formation of a stable and intense immunity.

Key word: Animals, radiovaccine, strain, pathogen, bactericidal, lysozyme activity, blood serum, antibody titer, vaccine dose, immunity.

Introduction.

As is known, the state of natural resistance and immunological reactivity, along with other factors, are directly related to the age of animals. The body's ability to produce antibodies against an infectious agent is noted already from 8-10 days of age, and antibodies that are formed during this period of time at first in low titers are soon not detected in the blood of calves (V.V. Nikolsky 1984).

We previously tested the associated radiovaccine administered once to pregnant cows (1.5 months before the expected calving) at a dose of 15 ml per head and it was noted that processes characteristic of the immune response occur in the body of cows (Bulkhanov R.U. et al. 1995)

The purpose of this work was to study the issue of immunogenesis in conjunction with natural resistance in calves vaccinated once with an associated radiovaccine.

The experiment was carried out on 12 heads of 3-month-old black-and-white calves. Calves were vaccinated with a single injection of the vaccine, subcutaneously in the region of the middle third of the neck at a dose of 5.0 ml per head.

Studies have shown that already 7 days after vaccination, the titer of specific antibodies increases to 1:400 against 1:20 and 1:25 before vaccination. Subsequently, the titers of specific antibodies increase intensively. So, after 10, 12, 14 days, antibody titers against salmonellosis colibacillosis average, respectively, 1:1200, 1:1600, 1:2400.

On the 30th day after immunization, the titer of specific antibodies began to decrease 1:1200, on the 45th day 1:400, and by the 60th day the titer was 1:40-1:30.

Vaccination favorably influenced the humoral factors of natural resistance. Thus, the bactericidal activity of blood serum of calves, starting from 10-12 days to 30 days after vaccination, reaches up to $83.6 \pm 1.19 - 86.3 \pm 1.91$ percent, which is slightly higher than the initial level of $78.9 \pm 2, 40$. Then, by day 45, the level of bactericidal activity returned to the original 80.2 ± 1.35 , by day 60 76.9 ± 2.87 .

Simultaneously with the increase in the bactericidal activity of blood serum, its lysozyme activity also stabilizes, being in the range of $18.3 \pm 1.22 - 18.6 \pm 1.53$ percent, which is slightly higher than the initial level of 18.0 ± 1.21 . Inhibition of lysozyme activity in the initial period of immunogenesis (7 days after vaccination) is probably due to the toxic effect of antigens both on the metabolic processes in general and on the synthesis of body defense factors (V.M. Suponitskaya, 1985).

The conducted studies have shown that the cumulative increase in the specific and natural resistance of calves, once vaccinated with the associated radiovaccine against colibacillosis and salmonellosis, protects calves from colibacillosis and salmonellosis: the introduction of a titrated lethal dose (25 billion mc) of the pathogens of these diseases did not lead to their death. While in the control, not vaccinated animals, a severe course of the disease was noted.

Conclusions:

A single administration of the associated radiovaccine to calves obtained from vaccinated cows leads to a stable increase in the bactericidal and lysozyme activity of blood serum, as well as an increase in the titer of specific antibodies, prevents them from contracting colibacillosis and salmonellosis, which in turn can help improve the specific prevention of these diseases while alleviating work of practical veterinary specialists, leads to a reduction in the cost of preventive measures and obtaining a healthy livestock of animals.

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