



Prevention and Treatment of Virus-Bacterial Gastrointestinal Infections In Calves Using Transovarial Immunoglobulins

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Abstract: As a result of the scientific research carried out in the article, "Tetravir-4" and "Enterovak-5" for the prevention and treatment of infectious rhinotracheitis, parainfluenza-3, respiratory syncytial infection, viral diarrhea, rota- and coronavirus infection, colibacteriosis and proteosis of calves according to a clearly structured scheme "Enteroaviglob - 2 veterinary drug, created on the basis of transovarian immunoglobulins from the yolks of chickens, hyperimmunized with vaccines, information on the results of its use is provided.

Keywords: virus, vaccine, immunoglobulin, enteritis, calf, transovarial, preparation, enteroaviglob-2, antibody.

Introduction.

Diseases and deaths of young calves are a serious obstacle to the further increase of livestock products, causing great economic damage to farms, reducing livestock income, derailing planned breeding activities, and seriously hindering herd growth. The death of calves is associated with violations of the conditions of keeping and feeding newborn calves, as well as cows and heifers, especially during the weaning season. Among such diseases of calves, infectious gastrointestinal diseases, which are widespread in a number of farms in Uzbekistan, especially in large farms, occupy a significant place.

In recent years, a number of researchers in our country and abroad believe that 60-90% of all infectious diseases of newborn calves are related to viruses and bacteria. [5,6,7]. Antibiotics and immune serums are used for treatment and prevention.

A successful fight against these diseases is possible only if there are reliable means of special treatment and prevention. For the treatment and prevention of viral and bacterial enteritis of calves, the development of a treatment method using immunoglobulins - IgY (yolk immunoglobulin) isolated from the yolk of vaccinated hens is particularly noteworthy. Analysis of the literature shows that preparations based on transovarial immunoglobulins can be used for special treatment of viral respiratory and gastrointestinal infections of viral and bacterial etiology of calves. [1,2,3,4].

Failure to use antibacterial drugs wisely, i.e. failure to comply with the dose, number of injections per day, course of treatment, long-term use leads to the accumulation of antibiotic-resistant microorganisms in the animal's body. At the current stage, the creation of drugs based on transovarian immunoglobulins is recognized as the most promising and effective. [8,9,10,11,12,13].

For the first time in Uzbekistan, veterinary drug "Enteroaviglob-2" based on hyperimmunized chickens and transovarian immunoglobulins was created and put into production for the prevention and treatment of viral-bacterial gastro-intestinal system infections of calves.

Materials and methods. Researches were carried out in the conditions of farms of Koshtepa district of Fergana region, Pastdargom district of Samarkand region, in the microbiology laboratory of the Department of Microbiology, Virology and Immunology of Samarkand State University of Veterinary, Animal Husbandry and Biotechnology, Veterinary Research Institute.

In order to prepare the veterinary drug "Enteroaviglob-2" based on transovarian immunoglobulins of chickens, according to a special scheme we have drawn up, the inactivated vaccine "Enterovak-5" associated with viral diarrhea, rota- and coronavirus infection of calves, colibacteriosis and proteosis, and infectious disease of large horned animals. simultaneously with the live "Tetravir-4" vaccine against rhinotracheitis, viral diarrhea, parainfluenza-3, respiratory syncytial infection, we hyperimmunized by injecting vaccines into different places between the muscles.

After 14 days after the end of the last injection, the eggs collected from chickens in the experimental group were stored at a temperature of +3 +50C.

Then we separated the yolk from the white, diluted it 3 times with a sterile isotonic solution of sodium chloride, preserved it, and packed it in 100, 200 and 400 ml sterile vials.

Indirect hemagglutination reaction (BGAR) was used to determine the level of antibodies against the virus in the egg yolk of immunized hens.

The obtained results and their analysis. "Enteroaviglob-2" veterinary drug based on transovarian immunoglobulins of chickens contains all viral and bacterial pathogens included in vaccines - infectious rhinotracheitis of calves, viral diarrhea, parainfluenza-3, respiratory syncytial, rota- and coronavirus infection, colibacteriosis and there are special antibodies against proteosis. As a result of determining the antibody titer by the indirect hemagglutination reaction (BGAR) method, the level of antibodies in the egg yolk of chickens immunized with Tetravir and Enterovak-5 vaccines according to scheme 2 by day 42 was from 1 to 12 log₂ to the infectious rhinotracheitis virus compared to the initial data. from 1 to 10 log₂ for diarrhea virus, from 2 to 11 log₂ for parainfluenza - 3 virus, from 1 to 12 log₂ for RS virus, from 2 to 12 log₂ for rotavirus, from 1 to 11 log₂ for coronavirus, E. coli K88 from 1 up to 11 log₂, E. coli K99 from 2 to 10 log₂, E. coli 987P from 2 to 11 log₂, E. coli F41, A20 from 2 to 10 log₂, Pr. mirabilis was found to increase from 2 to 11 log₂.

The drug prepared from them has a stimulating effect, increases the amount of immunoglobulins and the natural resistance of the body in calves with hypogammaglobulinemia.

"Enteroaviglob - 2" veterinary drug for the prevention of enteritis of viral and bacterial etiology of calves was drunk in a dose of 12.5 cm³ before the first feeding, and then it was administered orally once a day for 3-5 days.

For the treatment of viral and bacterial enteritis of calves, the veterinary drug "Enteroaviglob-2" was used for 3-5 days in a row from the first day of the first clinical signs of enteritis in a dose of 15 cm³ once a day for 3-5 consecutive days.

Enteroaviglob-2 drug was studied in 127 head of calves in livestock farms of Samarkand and Fergana regions, the preventive efficiency was 82.4-90%, and the therapeutic efficiency was 80-90%. Calves are 100% saved.

Summary. The technology developed for the preparation of the veterinary drug "Enteroaviglob-2" based on transovarian immunoglobulins of chickens, the associated inactivated vaccine "Enterovak-5" against viral diarrhea, rota- and coronavirus infection of calves, colibacteriosis and proteosis, and infectious rhinotracheitis, viral diarrhea, parainfluenza of large horned animals. 3, provides a high level of antibodies obtained from egg yolk obtained from

chickens hyperimmunized with the live "Tetravir-4" vaccine against respiratory syncytial infection. Their use in pneumoenteritis of calves had a preventive efficiency of 82.4-90% and a therapeutic efficiency of 80-90%, saving calves was -100%.

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