CREATION OF AN EXPERIMENTAL SERIES OF VACCINE AGAINST SHEEP INFECTIOUS NECROTIC HEPATITIS AND DETERMINATION OF ITS STERILITY AND STERILITY.

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Аннотация: *В статье приведена технология изготовления вакцины против инфекционного некротического гепатита овец и результаты научных исследований по разработке опытной серии из местного эпизоотического штамма J-22 выделенного в 2022 году. Также приведены результаты проведенных исследований по определению стерильности и безвредности приготовленной серии вакцины.*

Summar: *The article presents the technology for producing a vaccine against infectious necrotic hepatitis of sheep and the results of scientific research on the development of an experimental series from the local epizootic strain J-22 isolated in 2022. It also presents the results of studies conducted to determine the sterility and harmlessness of the prepared vaccine series.*

Key words: *Infectious necrotic hepatitis, sheep, Kitt-Tarossi, causative agent, Cl. Novyi, vaccine, necrosis, dose, liver, heart, fluid.*

Enter. Providing employment to the rural population, increasing the number of peasant farms raising cattle and sheep, and providing our Republic with leather, meat, milk and other milk and meat products is one of the urgent problems of today. There are a number of factors that negatively affect the increase in the number of livestock and their productivity, without eliminating them, achieving the above goals will cause a number of difficulties.

Diseases caused by anaerobic pathogens cause significant damage to the reproduction of sheep and at the same time cause their death. Infectious necrotic hepatitis disease of sheep also takes a significant place among the diseases that cause serious economic damage to the income of sheep-rearing families. This disease is widespread in many countries of the world where sheep breeding is developed, and the disease occurs occasionally in our Republic as well.

The causative agent of the disease is a spore-forming, mobile anaerobic bacterium, which forms spores in the body of a dead animal and in the external environment. The causative agent of infectious necrotic hepatitis of sheep persists in nature for many years and cannot be eradicated. The causative spores are spread and transmitted through food, water, soil, manure. The pathogen that enters the animal's body enters the blood and through it spreads throughout the body and multiplies in a place that is not well supplied with oxygen. The causative agent releases a strong toxin, which poisons the animal and disables all defense systems, and as a result, the animal cannot fight the disease. The disease is an acute infectious disease that lasts 8-12 hours, sometimes 1-2 days. In most

cases, the treatment of sick animals ends ineffectively and the animal dies. In the fight against this disease, prevention is the main measure. In order to prevent the disease, susceptible animals are vaccinated against the disease. In order to prevent the disease, no biological preparation-vaccine is produced in our Republic. Taking into account this problem, scientific research work should be focused on creating a vaccine against infectious necrotic hepatitis disease of sheep, and it is considered very urgent today.

Research object, methods and obtained results. Experimental guinea pigs of the Laboratory of Immunology and Biotechnology of the Veterinary Scientific Research Institute, local epizootic strains of the infectious necrotic hepatitis disease agent present in the laboratory, and Kitt-Tarosii nutrient media served as research objects.

To create an experimental series of vaccine against infectious necrotic hepatitis of sheep from local epizootic strains, 2 local epizootic strains J-22 and PY-23 with high pathogenicity were first selected. Of these, the J-22 strain was the production strain used in the preparation of the vaccine, and the PY-23 strain served as the control strain to test the immunogenicity of the vaccine. Prior to vaccine preparation, the production strain J-22 was cultured in test tubes on Kitt-Tarottsi medium and then on special agar. Pure culture grown on agar was inoculated into Kitt-Tarottsi medium in 0.5-1 liter flasks and placed in a thermostat at 37.5-38.5 0C for growth. After one day (24 hours), the media were cleared of liver slices and 0.4% pure formalin was added to inactivate the pathogen. The culture medium with added formalin was kept at a temperature of 38-39 0C in a thermostat for 3 days, with mixing 2-3 times every day. On the fourth day, 15% of a 3% sterile aluminum hydroxide solution was added to it in order to precipitate the pathogens in the environment, and it was thoroughly mixed and kept at room temperature for 2-3 days at 18-26 0C. The upper two-thirds of the diluted culture medium was removed. After the remaining dark part was heated in a water bath to a temperature of 37 0C, 0.1% dissolved sterile agar was added to it.

The sterility of the produced vaccine was planted in appropriate nutrient media (GPQ, GPA, Saburo's agar and broth, GPJQ - i.e. Kitt-Tarottsi nutrient medium), and after bacteriological examination and sterility was determined, it was packed in vials, closed with a rubber stopper, closed with an aluminum cap, and a label was attached to them.

In this way, an experimental series of condensed GOA formolvaccine against infectious necrotic hepatitis disease of sheep from local epizootic strain J-22 was prepared.

To determine the sterility of the experimental series of the vaccine against infectious necrotic hepatitis disease of sheep, 4 vials of vaccine were separated and 25 ml of vaccine was taken from each of them with a sterile syringe, poured into a clean sterile vial and mixed thoroughly. The vaccine mixture in this vial was planted on GPQ, GPA, Saburo agar and broth, Kitt-Tarottsi nutrient media and placed in a thermostat at 37.5-38.5 0C for growth. The inoculants were kept in a thermostat for 10 days and the Saburo media for 30 days, and during this period of observation, no microbe or fungi grew on the media, and the pilot series of the vaccine was concluded to be sterile.

To check the effectiveness of the vaccine, 1 ml of mixed vaccine was injected subcutaneously in 2 places around the abdominal muscles of 2 guinea pigs weighing 350-450 grams. These guinea pigs were continuously observed for 10 days. Until the end of the observation period, vaccinated guinea pigs showed no adverse clinical signs of the

disease and remained healthy. The experimental series of the vaccine was considered sterile.

Summary. Thus, an experimental series of vaccine against this disease was created from the highly pathogenic local epizootic J-22 strain of infectious necrotic hepatitis of sheep. The vaccine was tested by appropriate methods and found to be sterile and administered to guinea pigs.

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