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INFECTIOUS NODULAR DERMATITIS OF CATTLE

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Abstract
This article talks about infectious dermatitis of cattle. In addition, the symptoms characteristic of animals with this disease, the changes that occur in the animal during the disease, and the list of drugs are given.

Keywords: Capripoxvirus, Biferon-B, lymph nodes, digestive organs, mucous membranes, Creolin.

Infectious nodular dermatitis of cattle is an infectious borderless viral disease, characterized by persistent fever, necrotizing skin rashes, widespread lymphadenitis, and damage to the mucous membranes of the respiratory and digestive organs. The economic damage of infectious nodular dermatitis is great, and consists of a sharp decrease in milk yield in cows, a decrease in the quality of milk, skin products and live weight, stillbirth, infertility, and sometimes death of the animal as a result of exposure. The causative agent is a DNA-storing virus of the Capripoxvirus species of the Poxviridae family, which is antigenically close to the sheeppox virus.Large horned animals, sheep, goats, rabbits, guinea pigs are infected with this virus. In sick animals, the infectious nodular dermatitis virus is present in skin joints, muscles, mucous membranes, blood, saliva, and semen, and is stored for 11-12 days. When bulls recover from illness, the virus can be released with their semen for up to 2 months. The virus is resistant to external influences. The virus can be kept active for up to 6 months in a dark place in the cold (+40C) in the black crust of the skin bump of infected animals. The virus is inactivated in 2 hours at +55C, 30 minutes at +65C, 1% formalin,2% phenol, 2-3% sodium hypochlorite solutions inactivate viruses. Cattle, regardless of breed, sex, age, especially dairy cows and buffaloes of European breeds, are susceptible to nodular dermatitis.There are also reports of disease in sheep and goats. Giraffes and antelopes are highly susceptible to experimental infection with infectious nodular dermatitis virus. The disease is usually manifested as an epizootic.The source of the causative agent of the disease is sick and latent disease animals. The virus is released

during the incubation period and during the illness of the animal from injured skin areas, saliva, semen, milk, eye and nose fluids.

The incidence rate is 5-45 percent, depending on the breed characteristics and resistance of the organism. Mortality in large horned animals can be as high as 10-45 percent, but often It is 1-5 percent. Natural recovery from the disease can be up to 90 percent. The disease usually lasts up to 4 weeks, if it becomes complicated, this period can be extended due to secondary infections.The incubation period of the disease is 3-30 days, the incubation period in natural conditions is 2-4 weeks.

In the acute course of the disease, the body temperature rises to +40C and remains at this level for 4-14 days, loss of appetite, discharge from the eyes, discharge of mucous or purulent fluid from the nose and mouth, and after 48 hours, the formation of bumps on the skin with the focus is observed. These bumps are slightly raised from the surface of the skin, round, clearly demarcated, 0.2-7 cm in size, depending on the course of the disease, their number can be from a few to several hundred. They are located all over the body, mainly on the thighs, armpits, around the eyes, muzzle, and in the navel.When the disease is severe, bumps can be located on the mucous membranes of the mouth and nose, as well as in the labial area. As a result of the formation of nodular bumps on the eyelid, the retina becomes cloudy, the animal becomes completely or partially blind. From the formation of bumps.After 1-3 weeks, the tissue inside them is completely necrotic and sequestrations are formed. Later, the bumps burst and a stretchy mucous substance with an unpleasant smell is released. After the swellings have burst and healed, the bumps and their inflammatory symptoms will disappear (within 4-6 weeks). The wool in their place falls. The bumps sometimes harden and can last up to a year. Eventually, they are either absorbed or, more commonly, necrotic, drying to form a desiccated scab, with granulation tissue forming at the base of the scab. In the process of wound healing and scar formation, complications often arise due to secondary contamination with various microflora. Lymph nodes are enlarged, especially in front of the shoulder blade and under the armpit. Sick animals lose weight quickly, productivity decreases. In dairy cows, due to udder injuries, milk thickens, takes on a pink color, is milked drop by drop, and turns into a gel state when heated. In accordance with the course of the disease, breathing, digestion,

reproductive organs and joints are affected, breathing in the abdominal type is difficult, excessive salivation, mucous or mucous-purulent conjunctivitis, clouding of the eyelids, enlargement of lymph nodes can be observed. Cows may experience miscarriage, mastitis, reproductive failure, and bulls may experience temporary impotence or complete sterility.

Cattle are vaccinated every year to prevent disease. Resulting in immunity in cattle for 1 year.After injection, 10 % of animals show a nodule or swelling that disappears by itself within 2 weeks.Only timely vaccination will prevent pet cramps with nodular dermatitis. Most of the livestock is restored independently.Symptomatic treatment,is prescribed by a veterinarian.Treatment of nodular dermatitis:

⇒ Nitox 200- according to the instructions
⇒ Bitsilin 5-3 million pieces in 4 days
⇒ Tetravit-5ml per week
⇒ Creolin-bathing procedure is carried out every 3-4 days

According to the recommendations of some scientists, the use of biopreparation "Biferon-B" in the treatment of this disease has a good effect. Schemes for effective treatment and non-specific prevention of nodular dermatitis of animals with the help of a new generation veterinary drug prepared at the enterprise "NPTs ProBioTex" (Belarus) have been jointly developed by the scientists of the All-Russian Research Institute of Sheep and Goat Breeding of FGBNU and Belarusian State University. Preparations "Biferon-B", "Gentabiferon-B", "Enrofloxavetferon-B" are used in these schemes. They have a complex effect, multifunctional, video-specific effects. The active substance of the drug "Biferon-B" consists of a mixture of ox alpha-2 and gamma-recombinant interferons in the form of a stable drug, which provides a prolonged effect of the biopreparation and a strong effect against viruses. Meat and dairy products can be consumed without restrictions during and after the use of the biopreparation."Gentabiferon-B" drug has all the properties of "Biferon-B" drug, in addition, gentamicin has been added to increase the effectiveness of the fight against bacteria. Interferons contained in "Gentabiferon-B" eliminate the immunodepressant effect of the antibiotic.

After using the biopreparation, animal meat can be consumed after 14 days, and milk after 4 days."Enrofloxavetferon-B" contains enrofloxacin and has a broad spectrum of antibacterial activity. Recombinant alpha-interferon of the ox acts as a bright immunostimulant for animals, enhances the effect of enrofloxacin and the lysozyme and bactericidal effect of blood serum, increases the non-specific resistance of the organism. Interferons eliminate the immunosuppressive effect of enrofloxacin.Animals that have recovered from the disease do not re-infect with infectious nodular dermatitis. According to the information given by some scientists, immunity lasts for 11 months in animals after getting sick.For active specific prevention, a homologous live attenuated virus vaccine from the Neethling strain and a heterologous live attenuated virus vaccine obtained from strains of capripoxviruses isolated from sheep are used. All strains of capripoxviruses used as vaccines can cause a strong local reaction at the injection site. The dose of vaccination with nodular dermatitis virus vaccine is 2.5 lg50/cm3, the vaccination dose with the vaccine prepared from sheep-goat pox virus is 5 lg50/cm3.For special prevention, the first planned vaccination is given to young animals of 3 months. Revaccination is carried out after 12 months. All healthy animals are vaccinated regardless of the duration of previous immunization in unhealthy areas and farms in dangerous areas. Young animals up to six months old are vaccinated 2 times with an interval of 14 days.

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