Режим доступа: http://www.gknt.gov.by/. – Дата доступа: 15.01.2020.
4. Указ Президента Республики Беларусь от 9 марта 2009 года №123 (ред. от 21.02.2014 №92) «О некоторых мерах по стимулированию инновационной деятельности в Республике Беларусь» - Режим доступа: http://www.gknt.gov.by/. – Дата доступа: 15.01.2020.

THE PROBLEM OF PASTEURELLOSIS AS AN INFECTION COMMON FOR ANIMALS AND HUMANS

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Today, pasteurellosis in the world is very common and even the availability of a vaccine and the use of measures to prevent the disease do not constrain its spread. The disease is found in all countries. Economic damage consists of the death and forced slaughter of animals, the decrease in their productivity during the period of illness, and the significant costs of conducting treatment and preventive measures. The incidence is up to 90%, mortality - from 10 to 75%. The source of the causative agent of the infection are sick and ill animals, as well as clinically healthy bacteria carriers. All types of domestic and wild mammals and birds are susceptible to pasteurellosis. The most sensitive are buffaloes, cattle, rabbits and chickens. Horses and carnivores are relatively resistant to disease. Animals of all ages can be ill, but young animals are more susceptible. In addition, a person can get sick with pasteurellosis. The factors contributing to the epizootic spread of pasteurellosis include the mass movement of animals without due regard to the degree of well-being of farms for pasteurellosis, the lack of proper organization of economic, all kinds of violations of production technology and veterinary and sanitary measures in livestock and poultry farms. The diagnosis of pasteurellosis is established on the basis of a complex of epizootological, clinical, pathological and laboratory studies.

Laboratory diagnosis of pasteurellosis involves: microscopy of blood smears and smear prints from affected organs, isolation of a pure

culture on nutrient media with identification by biochemical properties, isolation of pasteurella by infection of laboratory animals (white mice or rabbits) with a suspension from pathological material and culture from a nutrient medium , determination of virulence of isolated cultures for white mice and rabbits. To determine the virulence of hemolytic pasteurella, 7-day-old chicken embryos are used, and the determination of the serovariant affiliation of pasteurella is used. Blood samples from superficial vessels and nasal mucus are taken as a test material from diseased animals, and after a case or forced slaughter, blood is taken from the heart, lymph nodes (mesenteric, pharyngeal, mediastinal, supramural, etc.), pieces of the affected lobes of the lungs, liver, spleen, heart, kidney, tubular bone. In summer, during prolonged transportation, pathological material is preserved with a 30% sterile glycerol solution. Pasteurellosis must be differentiated primarily from febrile septic diseases, which are also accompanied by the appearance of inflammatory edema under the skin: anthrax, emphysematous carbuncle and malignant edema, as well as from a number of other pathologies with a similar clinical picture. Treatment of animals with pasteurellosis should be carried out in two directions: improving the conditions of feeding and feeding and the use of specific and symptomatic agents. One of the specific treatments for pasteurellosis is hyperimmune polyvalent antipasterelotic serum. However, this serum has a weak therapeutic effect. The combined use of antibiotics and serum gives a good therapeutic effect. With pasteurellosis, tetracycline antibiotics are effective. Most Pasteurella isolates are sensitive to oral antimicrobials such as amoxicillin, amoxicillin / clavulanic acid, minocycline, fluoroquinolones (ciprofloxacin, ofloxacin, levofloxacin, moxifloxacin) and trimethoprim-sulfamethoxazole. Aminoglycosides have low activity against P. multocida. More severe infections may require parenteral antibiotics. Recently, a number of completely new or improved antimicrobials with a wide spectrum of activity have appeared in the arsenal of practical veterinary specialists. Along with the use of antibiotics, it is necessary to use vitamin preparations and minerals that increase the body resistance of a sick animal, as well as symptomatic therapy, including the use of cardiac and tonic drugs.

Pasteurellosis-infected animals acquire immunity for 6 to 12 months. Since pasteurellosis is a respiratory infection, and pasteurellas themselves are ubiquitous with a wide pasteurization, it is necessary to protect animals from general and local hypothermia: a cold often provokes acute pasteurellosis. For specific prophylaxis of acute pasteurellosis, inactivated vaccines are recommended: precipitated formol vaccine against pasteurellosis of hemorrhagic septicemia of cattle, sheep and pigs, semi-liquid aluminum hydroxide AzNIVI against pasteurellosis of hemorrhagic septicemia of cattle and buffalo, concentrated paratylocetectomyelitis against pasteurellosis of cattle, buffalo and sheep, emulsions, the vaccine against pasteurellosis. Vaccines are used for prophylactic purposes and compulsory in case of stationary dysfunction of the area, in farms with an acute outbreak of pasteurellosis and in threatened points. For the prevention of pasteurellosis in poultry farms, it is recommended to use dry live vaccines made from the French (Pasteur) avirulent and Russian weakly virulent strains (K and AB of the Krasnodar NIVS), as well as inactivated emulsion vaccines. For passive immunization there is a hyperimmune serum against pasteurellosis of cattle, buffalo, sheep and pigs.

The epidemiological situation of pasteurellosis in a number of countries is unfavorable. As it can be seen from the latest data from the country's veterinary services, there is currently a downward trend in the number of dysfunctional pasteurellosis farms caused by Pasteurella multocida, but at the same time the likelihood of isolating Mannheimia haemolytica is increasing due to the nature of the pathogen, which is a latent threat and the spread of the disease on a larger scale. To prevent the spread of the disease, the development of a modern laboratory diagnostic technique for Mannheimia haemolytica is a necessary element of preventive and antiepizootic measures. Due to the fact that the use for specific prophylaxis of the pasteurellosis vaccine caused by Pasteurella spp. unable to provoke a specific immune response to M.haemolytica, there is a need to develop a biological product that can cope with this problem.

References. *1. Aliyev. E / Aliev. E, Asimov. And, Veliev. U // Epizootology and infectious diseases - Baku, 2013.1028 p. 2.*

Maksimovich V.V // Epizootology and infectious diseases - Minsk, 2017. 258 p. 3. Prudnikov. V. S // Pathological anatomy of farm animals - Minsk, 2018.175 p. 4. Skorodumov D.I. / Skorodumov D.I., Subbotin V.V., Sidorov M.A., Kostenko T.S. // Microbiological diagnosis of bacterial animal diseases. - M.: Izograf, 2005. 5. Wilkie. I, W / Wilkie. I, W., Harper. M., Boyce. J, D., Adler. B // Pasteurella multocida: diseases and pathogenesis. Curr Top Microbiol Immunol. 2012. - 361: 1-22. 6. Giordano. A / Dincman. T., Clyburn. B, E., Steed. L, L., Rockey. D, C // Clinical Features and Outcomes of Pasteurella multocida Infection. Medicine-Baltimore 2015 Sep. 94 (36): e1285. 7. Heydemann. J / Heydemann. J., Heydemann. J.S., Antony. S // Acute infection of a total knee arthroplasty caused by Pasteurella multocida: a case report and a comprehensive review of the literature in the last 10 years. Int J Infect Dis. 2010 Sep. 14 Suppl 3: e242-5.

COMPOSITION, PROPERTIES AND APPLICATION OF CALENDULAS IN MEDICINE

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Calendula is an annual herbaceous plant from the Asteraceae family with small yellow or orange flowers and crescent-shaped or hook-shaped seed fruits (for this form, reminiscent of bird claws, the calendula was called marigold) [1].

The pharmacological activity of calendula preparations is due to the presence in the raw material of a complex of biologically active substances (BAS), namely: carotenoids, flavonoids, triterpene saponins and a number of related substances. In different parts of the plant, chemical composition is different. The largest number of biologically active substances is found in calendula flowers. They contain up to 3% carotenoids and up to 0.8% flavonoids. Monoterpene lactone - loliolid with antitumor activity was isolated from the flowers of calendula officinalis. The tart aroma of the plant is due to the presence of essential