



DIAGNOSTIC METHODS AND MEASURES FOR THE PREVENTION OF LISTERIOSIS

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Article history:	Abstract:
Received August 20 th 2021 Accepted: September 20 th 2021 Published: October 25 th 2021	Improve identification of the causative agent of listeriosis, send pathological materials to laboratories, conduct laboratory tests, ensure food safety through biosynthesis, and improve disease prevention.
Keywords: Listeria, source of disease, epizootic chain, septic listeriosis, sick animals, risk level, epizootic processes, biochemical properties, biological preparations.	

RELEVANCE OF THE TOPIC.

Listeria has long been known to microbiologists, epizootologists, epidemiologists and clinicians around the world. Despite the fact that there are many studies in the literature on listeriosis of farm animals, this disease still causes not only economic damage to livestock, but also to human health.

Listeriosis is one of the most epidemiologically and epidemiologically dangerous diseases in terms of the prevalence of Listeria in nature, resistance to environmental influences, the complexity of clinical diagnosis and damage to animals and humans. To date, the causative agent of Listeriosis has been isolated from more than 92 wild and domestic animals, poultry, fish, molluscs, insects and blood.

LISTERIOSIS

Is a common zonal disease. It is registered in 44 countries, including Uzbekistan.

DRIVER.

Listeriosis of mococtogens. It belongs to the genus Listeria and causes diseases in rodents, pigs, large and small horned animals, horses, some fur-bearing animals and birds. People are also predisposed. The disease is septic, with damage to the central nervous system, abortion, mastitis, sepsis.

Carcasses of newborns or large animals (horses, ruminants, sheep) with parenchymal organs and brains are sent to the laboratory for research. In the event of a miscarriage - an aborted fetus or its organs, milk samples are sent from the udder affected by mastitis. In the early stages of septic lestriosis, blood is taken for blood culture.

MICROSCOPY.

Gram and fluorescent antibodies are obtained and stained from pathological material and stained. Listeria mococtogenes is a motile bacterium containing up to five active microbes. Some strains quickly lose their viability and become immobile. Gram-positive (in the old culture there are also gram-negative ones), 0.5x1.0 - 2.0 µm in size, rods with polymorphic ends, in some nutrient media - slightly curved. It is arranged in single Roman numerals parallel to each other, in pairs or in short chains. Does not form spores and capsules. Positive results on preparations stained with fluorescent serum give special radiation with an intensity not lower than +++++, +++ in the contours characteristic of the causative agent of listeriosis.

BACTERIOLOGY.

A 1: 5 suspension of pathological material is prepared and inoculated with simple or 1% glucose and 2-3% glycerol, GPB, GPA, liver meat peptone broth, blood agar, and elective medium. Listeria mococtogenes aerobic or optionally anaerobic; optimal pH 7.2 - 7.4, temperature 37 °C. Genital secretions and milk are inoculated with 1% glucose, 2-3% glycerol with meat peptone liver agar and 10% NaCl GPB. Sowing is observed for two weeks. Part of the test material is stored in a refrigerator (40 °C) for 30 days.

At this temperature, listeria develop and multiply. If the results of the primary culture are negative, the stored material is transplanted into culture media every 10 days. A slight turbidity is observed in the GPB, and after 5-10 days a slimy sediment forms at the bottom of the test tube. When touched, it rises like a hairpin. Some strains form a membrane. In solid nutrient media, it forms smooth transparent colonies of blue (in transitional light) and grayish-white color. Small transparent, dew-like S colonies grow in the GPA, as well as dissociated intermediate O colonies and wide R colonies. Virulent strains form S-shaped colonies, non-virulent R-shaped colonies. Does not dissolve GPJ. When planted vertically, after 10 days of sowing, it grows deeply perpendicular to the gelatin. The resulting colonies are in the form of lentils. Bloody agar forms a hemolysis zone.

BIOCHEMICAL PROPERTIES ARE VARIABLE.

Dulcitis does not break down inulin, raffinose; does not break down glucose, maltose, pantoic acid, salicylic acid, carbonic acid. Catalase activity is determined by adding an equal amount of freshly prepared 5% hydrogen peroxide to a daily broth culture or a few drops of an agar culture. The formation of gas bubbles (foam) indicates the presence of the enzyme catalase in the culture. This is typical of Listeria. Indicative dyes are used to differentiate listeria from sarm. Listeria discolors litmus, neutral and methylene blue. Sarmas does not discolor.

SEROLOGICAL EXAMINATION.

AR, CBD, indirect precipitation hemagglutination reactions.

BIOSINOV.

Three white mice weighing 18 g are injected subcutaneously or intraperitoneally with 0.3-0.5 ml of pathological material or culture suspension. For a good yield of biosins, white mice should be injected with a dose of 5 mg of cartilage intramuscularly 3-4 hours before infection. As a result, they die in 2-6 days. They develop numerous necrotic nodules in the liver, spleen, and kidneys. Sometimes not. White mice, especially those that do not feed young mothers for 5-6 days, are very susceptible to disease, and when 0.2 ml of broth culture is injected subcutaneously, they die after 18-36 hours with specific symptoms - red-blue. solutions of paralysis of the forefoot (toes) appear on the skin.

Only a small proportion of guinea pigs die when they are exposed to a culture of Listeria under the skin, between the muscles and in the abdomen. Specific characteristics of Listeria are tested in guinea pigs by conjunctival sampling or subcutaneous injection.

In a sample of the conjunctiva - the conjunctiva of the eyes of two guinea pigs - 2 drops of the test culture are instilled and the eyelids are lightly massaged with a cotton swab. A positive result is the appearance of purulent keratoconjunctivitis in 2-4 days.

When injected subcutaneously, 0.3-0.5 ml of broth culture is injected into the skin of a guinea pig. After 24-48 hours, inflammation develops, and then necrosis occurs.

Large rabbits should not be killed if large doses of the stimulant are injected under the skin, between the muscles or in the abdomen. When 0.5-1 billion bacteria are injected into a vein alone, they die with signs of central nervous system dysfunction.

In rabbits, like in guinea pigs, the culture can be injected into the skin and cause inflammation after 24-72 hours. Each rabbit's skin can be tested by sending multiple cultures to each location.

Laboratory animals that die of listeriosis develop numerous grayish-white necrotic nodules in the liver, spleen, and kidneys.

The images are taken from the internal organs of dead animals and transplanted into food media. Animals in Biosinovo are monitored for 14 days.

THE RESULT IS POSITIVE:

Gram-positive polymorphic movable rods are isolated from the pathological material, producing catalase, maltose, rhamnose, a gas that does not contain salicylic acid. fluorescence microscope.

CONTROL AND PREVENTION MEASURES FOR LISTERIOSIS.

Consists of two parts - organizational economics and special events.

Organizational measures include: All animals brought to the farm are quarantined for 30 days to prevent listeriosis. Animals should only be purchased from healthy farms for listeriosis. During preventive quarantine, animals undergo clinical examination. If signs of nervous system damage, miscarriage or fever are found, blood will be drawn for listeriosis using AR and CBD tests. Material (blood, semen, aborted fetus, placental abruption) is also sent for bacteriological examination. Deratization and disinfestation measures in cattle and sheep pens for regular control of wild animals, especially rodents (rats, field mice, beetles, etc.), Ticks and blood-sucking insects, which are the main source of diseases in nature on the farm must be rescheduled.

Cereals, hay and straw used as bedding should be carefully checked. Rodents are subjected to heat treatment of barley and straw, samples of silage are taken to determine if it is infected with Listeria, and sent for bacteriological examination.

There is also a case of listeriosis, which is characterized by poor quality, polluted water in swamps and small bodies of water that periodically irrigate animals. Water for irrigation of animals must be clean, fresh, transparent and, of course, free from infectious agents.

In healthy farms, once a month, barns are disinfected with 2-3% sodium hydroxide, 20% fresh slaked lime or 5% creolin solution.

Veterinarians should take into account all cases of animal deaths, miscarriages, stillbirths on the farm and send pathological material to veterinary laboratories for bacteriological examination.

The abandoned fetus is destroyed or sent to a processing plant in accordance with veterinary and sanitary rules after the removal of pathological material from the body of the dead animal.

Disinfect livestock and places of abortion or death of animals with signs of listeriosis.

Before selling breeding animals to other farms, listeriosis should be tested for serum AR and CBD.

Infected farms are considered unhealthy under veterinary law and disease control measures have been taken.

When planning your activities, be sure to follow the guidelines outlined in the guide. For these measures to be effective, data from the epidemiological survey of the unhealthy point will be used.

BIOLOGICALS.

In 1974, a proposal was approved for a dry vaccine against listeriosis in farm animals prepared from the AUF strain. The AUF vaccine is a lyophilized dried culture of an attenuated *Listeria* strain of the first serotype. The sterility, safety and immunogenicity of the vaccine in rabbits are controlled.

Diagnostic agglutination serum of listeriosis. Fluorescent serum for listeriosis. Vaccines are prepared from two serotypes of *Listeria*. Two *Listeria* AR antigens derived from serogroup kkit. The suspension of *Listeria* is inactivated by boiling in a water bath for 1.5 hours. *Listeria* antigens for CBD. The diagnostic set of lyophilized bacteriophages of listeriosis consists of two monophages, L2A and L4A.

CONCLUSION.

1. By supporting the timely detection of listeriosis, its correct diagnosis, animal isolation, isolated storage, high-quality disinfection, pest control and vermin control on the farm, we will maintain economic efficiency.

2. Protection of animal and human health by identifying the causative agent of listeriosis by biosynthesis and carrying out quarantine measures.

3. For the prevention of listeriosis, it is necessary to carry out epizootic measures every 2 months in a timely manner, conducting clinical examinations of animals, sending pathological samples to the laboratory and correctly diagnosing them by special reactions.

4. All infectious diseases should be discussed with veterinarians.

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