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## PREVENTION, OUTCOME, TREATMENT AND PREVENTIVE MEASURES BRUCELLOSIS DISEASES IN UZBEKISTAN

***Abstract****. Brucellosis is an infectious disease that affects various organs and systems of the body, and the clinical picture does not have a pronounced specificity. This article discusses brucellosis, its prevention, consequences of the disease, modern methods of treating the disease, and prevention of the disease. Information on the necessary measures is given.*

***Key words:*** *brucellosis, infection, lameness, disinfection, antibiotics, physiotherapy, aerogen.*

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## O‘ZBEKISTONDA BRUSELLYOZ KASALLIKLARINING OLDINI OLISH, OQIBATLARI, DAVOLASH VA PROFILAKTIKA CHORALARI

***Annotatsiya.*** *Brusellyoz — bu turli organlar va tana tizimlariga ta’sir qiluvchi yuqumli kasallik bo‘lib, uning klinik ko‘rinishi aniq belgilarga ega emas. Ushbu maqolada brusellyoz, uning oldini olish choralari, kasallikning oqibatlari, zamonaviy davolash usullari va kasallikdan himoyalanish yo‘llari muhokama qilinadi. Kerakli choralar haqida ma’lumotlar keltirilgan.*

***Kalit so'zlar:*** *Brusellyoz, infeksiya, qoraoqsoq, dezinfeksiya, antibiotik, fizioterapiya, aerogen.*

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## ПРОФИЛАКТИКА, ПОСЛЕДСТВИЯ, ЛЕЧЕНИЕ И ПРОФИЛАКТИЧЕСКИЕ МЕРЫ ПРИ БРУЦЕЛЛЁЗЕ В УЗБЕКИСТАНЕ

***Аннотация.*** *Бруцеллёз — это инфекционное заболевание, поражающее различные органы и системы организма, при этом клиническая картина не имеет выраженной специфичности. В данной статье рассматриваются бруцеллёз, его профилактика, последствия заболевания, современные методы лечения, а также меры по предотвращению болезни. Приводится информация о необходимых мерах.*

***Ключевые слова:*** *бруцеллёз, инфекция, хромота, дезинфекция, антибиотики, физиотерапия, аэрогенный путь передачи.*

**Preface.**

Brucellosis is a zoonotic infection, the causative agent of which is transmitted to humans from sick animals. The disease often becomes chronic, and in severe cases can lead to disability. Brucellosis, Malta fever, and black leprosy are infectious diseases of humans and animals; Brucellosis is caused by Brucella bacteria, which can survive in the environment (water, soil, skin, etc.) for several months; Disinfectant kills in a few minutes. Brucella is excreted with milk, urine, manure, and excrement of a sick animal; they are also found in the meat of this animal. Brucella enters the body through the mucous membranes of the digestive and respiratory tracts, as well as damaged skin. The disease is transmitted to humans by eating raw milk and dairy products (cheese, butter), as well as undercooked meat of animals sick with brucellosis. Farmers, shepherds, poultry farmers, tannery workers and others are more often infected with B. Brucellosis mainly affects the nervous system, cardiovascular system and musculoskeletal system. The latent period of the disease is 1-3 weeks. Its course and symptoms vary. In the acute onset, fever increases, the patient sweats profusely, symptoms of malaise are observed; throbbing pain in the limbs, back, muscles and joints. Sometimes the fever increases, sometimes decreases, the liver and spleen enlarge, later the joints become inflamed, etc. After a few months, the patient begins to recover, sometimes he can cry. In women, premature birth or miscarriages are observed. Brucellosis often begins slowly. The patient consults a doctor only after an injury to the musculoskeletal system.

The patient is being treated in the hospital. Treatment is prescribed depending on the general condition of the patient; antibiotics, physiotherapy and others are prescribed. In order to prevent B., sick animals should be promptly identified, fed separately and slaughtered; meat and milk should be disinfected using special methods. To prevent the trans-

mission of brucellosis to humans, it is necessary to vaccinate against brucellosis and provide them with special clothing and protective equipment.

Brucellosis in animals is caused by three types of bacteria belonging to the genus Brucella, including Brucella melitensis in rabbits, V. abortus in cattle, and V. suis in pigs. It can also be found in other domestic animals. Brucellosis in sheep and goats is most dangerous to humans. Animals become infected through feed or water, as well as contaminated semen during artificial insemination, etc. In female animals, brucellosis occurs in the second half of pregnancy (at 5-8 months in cows, at 3-4 months in sheep and goats, at 4-12 weeks in pigs), retention of the placenta in the uterine wall, orchitis (testicular inflammation) in male animals, and joint disease. In most cases, brucellosis is latent. The disease is diagnosed based on clinical signs, bacteriological and serological studies, and allergic tests are performed on sheep, goats and pigs using the biological drug brucellin.

**Preventive and control measures.**

Cattle are not taken out of areas where the disease is spreading. In farms where brucellosis has been detected, sick animals are slaughtered, products such as milk and meat are disinfected using special methods, and healthy animals are vaccinated.

8 types of Brucella have been identified, 6 of which are dangerous to humans. Brucellosis transmission routes

• fecal-oral – through water and food;

• contact-household – bacteria enter the skin and mucous membranes through microvessels;

• aerogenic – inhalation of contaminated dust.

People who consume milk and dairy products without heat treatment usually become infected through the fecal-oral route. Contact-household and airborne routes are less common, they mainly cause illness in people who care for animals, process products and raw materials obtained from them. If a pregnant woman has brucellosis, there is a high probability of infection with the fetus or during breastfeeding.

Symptoms of human brucellosis

All forms of brucellosis in the initial stage are characterized by the following symptoms:

• General infectious intoxication – weakness, anxiety, headache, insomnia.

• Hyperthermia or fever – a prolonged increase in body temperature to subfebrile numbers (up to 38°C) or fluctuating fever with a sudden rise and fall. The duration of fever is up to several months, accompanied by chills and heavy sweating.

• Arthralgia and myalgia – joint and muscle pain, most often affecting the lower limbs. These pains are a characteristic sign of brucellosis.

As the disease progresses, patients may develop hepatosplenic syndrome - enlargement of the liver and spleen, general myclymphatic adenopathy - enlargement of lymph nodes in non-adjacent areas, various lesions of the nervous system - loss of sensitivity and consciousness, paralysis of the limbs, mental illness. Different forms of brucellosis are accompanied by different symptoms.

**Consequence.**

Brucellosis is rarely fatal. Even before the advent of antibiotics, the mortality rate did not exceed 2% and was mainly due to endocarditis. However, brucellosis often leads to disability. The severity of complications depends on the type of trigger. Brucellosis caused by Brucella melitensis has the most severe consequences. One of the causes of disability is neurological disorders, including spinal cord injury and paraplegia. Meningoencephalitis and sensorineural ear pain have been reported as complications of streptomycin treatment. Diagnosis of brucellosis. Anamnesis data: contact with an animal, consumption of uncooked animal products, occupation of the patient, endemic foci. Clinical picture.

**Laboratory diagnostics:**

• In 50-70% of cases among patients with brucellosis, blood culture on a nutrient medium gives a positive result:

• Wright reaction – positive on the 10th day;

• Coombs reaction - for the diagnosis of chronic brucellosis;

• test for 2-mercaptoethanol-agglutinite;

• Heddleson reaction;

• each Burn test;

• Brucella species. DNA identification using nucleic acid amplification methods (PCR).

**Brucellosis treatment.**

The disease is treated in infectious hospitals, severe course indicates the need for hospitalization of the patient in the intensive care unit. Since allergic reactivity is of great importance in the pathogenesis of the disease, treatment is carried out by an allergist-immunologist.

During periods of fever, patients are advised to stay in bed, monitor fluid intake, and limit salt.

The main therapy is antibiotics of different groups, often a combination of two drugs is prescribed. In addition, detoxification, symptomatic and immunostimulating therapy is carried out.

During the period of remission, patients are recommended physiotherapy, physical therapy, and spa treatment.

**Prevention.**

Thermal processing of products is necessary for the prevention of brucellosis at home. This means frying meat well and boiling milk. Agricultural products should be purchased in stores or markets under veterinary control.

• Pasteurization or boiling of milk;
• Veterinary control of animals;
• To familiarize the population working with animals and products made from them with the rules of sanitation and hygiene;
• Preventive vaccination of individuals at high risk of disease (short-term – about 2 years);
• Mass vaccination of animals did not give the expected result. By the way, people who work with animals or their waste products should be vaccinated in advance for preventive purposes. And, of course, when preparing, you need to be careful, observing the standards of heat treatment.

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