

## The Value of Tuberculinization in Veterinary Practice

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### ABSTRACT

*In a scientific study, the biological properties of PPD diagnostics, developed in the laboratory of the Scientific Research Institute of Veterinary Medicine by a senior researcher G.Kh. Mamadullaeva, are experimentally explained.*

**KEYWORDS:** *Tuberculosis, strain, microbacteria, M.B.T., bovis, humanis, avium, PPD, KAM, tuberculinization.*

According to statistics, more than 2 billion people are infected with tuberculosis in the world, 8-10 million people are infected every year. They harm people, of which 4 million people, that is, 77,000 people die a week. The saddest thing is that 900,000 of them are women and 300,000 small children.

Tuberculosis is a disease belonging to the group of especially dangerous infectious diseases, 3 pathogenic types of its causative agent have been identified:

1. *Mycobacterium tuberculosis humanus* - isolated from infected people.
2. *Mycobacterium tuberculosis bovinus* - isolated from sick cattle,
3. *Mycobacterium tuberculosis avium* - isolated from sick poultry.

26.5% of people are infected with **M. t. bovinus**. In Russia in 2002-2004, 75254-93700 heads of cattle gave a positive reaction, of which 18000-21600 samples were bacteriologically examined, 36.5% of pathogenic and 36.4% of atypical mycobacteria were isolated.

96.5% of isolated mycobacteria were *M.t.bovis*, 2.7% *M.t.humanis*, 0.8% *M.t.avium*.

Every year in our country, an average of 1,605 cattle are examined for tuberculosis, which is 0.016% of the available cattle. This shows the relevance of this issue. Thus, the condition is to provide a sufficient amount of tuberculin diagnostic drug. It can be seen that this is one of the most pressing issues.

*M.t.humanis*-common guinea-pig tuberculosis causes localized pathology in the rabbit.

*M.t. bovis* causes disseminated tuberculosis in guinea pigs and rabbits.

*M.t.avium* causes sepsis in rabbits, focal wounds, disseminated lesions in chickens.

*Mycobacteria MPB, MPA, potatoes, eggs, grow slowly on artificial media, M.t.humanis 20-30 days, M.t. bovis-20-60 days, M.t. avium grows in 11-15 days. If there is no growth, they are treated in a*

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thermostat for 3 months.

As mentioned above, the biological properties of the diagnostic drug PPD underlie the measures to combat tuberculosis. This drug allows you to identify 98% of sick animals. The drug is not produced in our country, and 10-12 million doses have to be purchased in Russia every year. According to the instructions of the veterinary legislation, it is planned to conduct an annual diagnostic examination in livestock farms once, and twice in production farms. Based on this, it is very necessary to develop in our country PPD - a means of diagnosing tuberculosis. The quality of tuberculin should not be a substrate that causes sensitization, while being a special substance.

Which of the PPAs made from their types of M.t. humanis, M.t.bovis, superior in specificity, not currently established.

Since 1971, PPD has been produced from the species M.t.humanis and M.t.bovis. Since 1982, the production of tuberculin from M.t.bovis species on an industrial scale has been established. Tuberculin contains the following chemicals: proteins 73-90%, lipids 11%, polysaccharides 4-5%, nucleic acids 1-2%. In developed countries, PPD prepared from local strains is available for diagnosing tuberculosis.

Tuberculosis is chronic, clinical symptoms are almost invisible, therefore, the disease is diagnosed by conducting allergic tests: ELISA and PCR have a very high level of accuracy. In veterinary practice, allergy tests are carried out in two ways: subcutaneously and ocular allergic tuberculin, and the result is determined within 72 hours. Tuberculin PPD was administered to all animals, except for horses at the age of 2 months, mammals, 0.2 ml. Before subcutaneous injection of tuberculin, the thickness of the skin is measured and recorded using a kitimeter. In oxen, it is introduced into the corral under the tail. Tuberculin is injected in 2-3 ml. In sheep, pigs, dogs, monkeys and fur-bearing animals, the tumor appears 48 hours after the introduction of tuberculin, and in poultry, if the tumor appears after 30-36 hours, then this is considered a positive result.

An allergic reaction is very sensitive and very specific. It depends on the immunoreactivity of the body and sensitivity to tuberculin. For differential diagnosis, concurrent reaction or atypical M.t. put with KAM. Experimental and diagnostic tuberculinization is carried out twice a year in the agricultural firm "Koktepe Zamin" of the Payarik region.

	Cattle (heads)	Negative reaction	Positive reaction
2018	26	-	26
2019	34	2	32
2020	46	2	44

Animals that tested positive twice were sent for forced slaughter within 15 days, and their places were professionally disinfected.

The Charter of the Veterinary Regulations provides for the following. If tuberculous changes are detected in parenchymal organs and lymph nodes in cattle or if the diagnosis is confirmed on the basis of bacteriological, histological and biotesting, the farm will be closed. Allergic, bacteriological, histological, serological studies are carried out, sick cattle are separated and handed over for meat within 15 days.

An allergy test is carried out 1 time in 30-45 days until two consecutive negative results are obtained on the farm, then an allergic test is repeated at an interval of 3 months until two consecutive negative results are obtained on the farm, with a negative result, it is considered healthy. Calves taken from sick cows are fed in the udder and given for meat.

Milk taken from sick cows is boiled for 10 minutes and given to calves that are being fed or processed into butter. Milk obtained from treated cows is pasteurized or boiled at 90°C for 5 minutes,

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85°C for 30 minutes. Conditionally healthy cows are kept separately from calves. It is fed with milk from healthy cows, at the age of two months it is tested for allergies. Those that test positive are sent for meat, the rest are tested every 30-45 days, twice in a row, until a negative result is obtained on the farm, and then every 3 months. Upon receipt of two consecutive negative results for the herd, it is considered healthy and is used only for economic needs, it is prohibited to export them.

Treatment with ETIS-2 (Isoniazid, streptomycin, zhimedrol, tetravit). Method G.Kh. Mamadullaev.

18-20 ml is injected under the skin with an interval of 30 days. The drug is used to protect sick and apparently healthy animals from diseases. It is used to protect 10-day-old animals from tuberculosis.

Before use, all animals on the farm are checked, animals with positive results are separated, and the drug is administered to the remaining conditionally healthy.

1-2-4-5, 3-6 is injected under the skin of the breast. Depending on the epizootic situation, it is sent once a month. Upon receipt of a negative result in two consecutive samples, a 6-month preventive examination is performed, during which time an allergy test is performed 2 times. Feeding with high-grade products, sanitary and hygienic conditions are improving, regular disinfection is carried out.

In poultry farms, all sick and weakened chickens are given for meat, the rest are given for meat after receiving eggs, and the eggs are sent to bakeries for use in baking bread.

Pigs are fattened for meat, and the rest are tested for allergies every 30-45 days from two months of age. If a negative result is obtained for the 2nd time in a row, the farm is considered healthy.

Horses with a positive result are separated, after 45-50 days they are re-tested for allergies, with a positive reaction - for meat, the rest - for allergies and are tested every 45-60 days, until a 1st completely negative result is obtained.

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