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Paper Authors:

**Gulmurod Khamidovich Mamadullaev¹, Ulugbek Murodulloevich Fayziev²
Zumrad Dzahongirovna Shapulatova³**



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BACTERIAL OF AGRICULTURAL ANIMALS METHOD OF TREATMENT OF ETIOLOGICAL AND NON-INFECTIOUS DISEASES

Gulmurod Khamidovich Mamadullaev¹, Ulugbek Murodulloevich Fayziev²
Zumrad Dzahongirovna Shapulatova³

Doctor of veterinary sciences, senior researcher¹

Independent researcher, Veterinary Research Institute²

Candidate of veterinary sciences, Associate Professor Samarkand Institute of
Veterinary Medicine Head of the Department of Epizootology, Microbiology and Virology³

E-mail: gмамудуллэев@mail.ru

Abstract: The article presents the results of the introduction of a complex drug – ETIS-2 for the treatment and prevention of bacterial etiology diseases of farm animals developed by Scientific Research Institute of Veterinary scientists. The introduction of this drug made it possible to effectively cure 850 heads of farm animals from diseases of the organs of sight, respiration, gynecological and surgical diseases of bacterial etiology and also the prevention of avitaminosis.

Keywords: complex drug ETIS-2, etiology, chemoprophylaxis, strain, bacteriology, synergistic, prolongation, combination, respirator, gynecological, surgical, ophthalmological, avitaminosis, prophylaxis.

Introduction

Scientists from the Tuberculosis Research Laboratory of the Veterinary Research Institute have developed a “complex drug-ETIS-2” consisting of pharmacopoeial drugs. Vitamin vegetable oil (trivit or tetravit) was used as a shaping element and adjuvant to the drug. Taking into account the effect of drugs included in the complex drug on various microorganisms, the effectiveness of the drug in the treatment of various infectious and non-infectious diseases was studied in the production environment and introduced into the production of “complex drug”.

Typically, several different drugs are used in the treatment of respiratory, gynecological, ophthalmic, and surgical diseases of farm animals, including antibiotics, sulfonamides, nitrofurans, and other types of symptomatic drugs. If a complex drug is used, there is no need to use other types of drugs.

The method of treatment of bacterial diseases of farm animals with the help of “complex drug” is applied in the Republic's livestock farms. As a result, there is an opportunity to reduce dependence on imported drugs.

It is known that **Penstrept** and other types of drugs imported from China and the Netherlands are widely used in the veterinary practice of the Republic for the treatment of diseases of farm animals: cattle, small cattle, horses, pigs and dogs. **Penstrept** consists only of a mixture of penicillin and streptomycin. At present, various microorganisms have become resistant to the drug penicillin and its bactericidal effect has decreased. Therefore, the use of penicillin in both medicine and veterinary medicine is being abandoned by experts.

With the help of “complex drug” introduced a method of treatment of bacterial etiological and non-communicable diseases of farm animals. The scientific volume of the product can fully meet the requirements of the Republican Veterinary Service for a “complex drug”. The method of treatment and prevention of respiratory diseases, gynecological, ophthalmic and surgical diseases, as well as polyhypovitaminosis of agricultural animals: cattle, small cattle, horses, pigs and dogs with the help of “complex drug” was introduced into veterinary practice.

Scope, material and methods of research. Technological regulations for the

preparation of the drug have been developed. The effectiveness of the drug in the body of laboratory animals, its optimal dosage, interval and duration, the effectiveness of treatment of various diseases of farm animals in livestock farms were determined.

The components of the “complex drug” have a wide range of antimicrobial effects, pharmacokinetics of mycobacteria, gram-negative (*Escherichia coli*, salmonella, klebsiella, tularemia, etc.) and some gram-positive (staphylococci, pneumococci, microorganisms, streptococci). A depot is formed at the injection site of the drug administered parenterally (subcutaneously), is slowly absorbed and accumulates in the body after 15-20 days to a maximum and is stored for up to 30 days.

The drug in the "complex drug" has the ability to disrupt the structure of the outer membrane of bacteria migrating inside and outside the body. An antibiotic containing a “complex drug” easily enters the cytoplasm of a pathogen whose cell membrane is damaged and binds to the 30S subunit of ribosomes at specific protein receptors. This leads to disruption of polyribosome's and DNA defects.

The composition of the “complex drug” is an antihistamine-desensitizing, antiallergic and local inflammatory and necrotic process in the body.

The combination of components of the drug - its advantage over other bacteriostatics. Such a **combination gives a synergistic effect** (one drug enhances the effect of another) and **prolongation** (prolonging the effect of the drug). With the help of a complex method of drug application, it is possible to effectively treat and adopt farm animals from diseases.

The drug is administered subcutaneously to the right or left side of the neck of the animal, anteriorly 10–15 cm from the shoulder joint, and the pelvic part. In gynecological, ophthalmological and surgical diseases it is instilled at the site of injury and inflammation. A single injection dose of the complex drug is administered at the rate of 5 ml per 100 kg body weight, depending on the live weight of the animals. 20 ml for cattle weighing

400 kg and above and we cannot send more than 20 ml for this weight. Instillation of the drug at the site of injury depends on the degree of inflammation and the internal organs of the localized organism, and can be administered from 1-2 ml to 20 ml. For example, 1-2 ml is instilled into the orbit of the eye, up to 20 ml into the uterine cavity, and 5-20 ml into the wound site.

The drug can be used in all types of animals from 10 days of age, regardless of their physiological condition.

After vaccination of animals against bacterial (colibacillosis, salmonellosis, pasteurellosis, leptospirosis, diplococcosis, etc.) infectious diseases, it is impossible to inject the “complex drug” for 14-21 days. This is because the antibacterial drugs in the drug may affect immunogenesis.

Meat and dairy products from animals that have received the optimal vaccine doses of the drug can be consumed without restrictions. There is no disproportionate effect of the drug on the body.

After administration of the drug to animals, a painless swelling develops at the injection site and is slowly absorbed into the body. No other disproportionate side effects are observed by the drug for the body. There is no need for antidotes or other neutralizing drugs.

Results of research and their analysis.

The effectiveness of treatment of infectious and non-infectious diseases of various types of bacterial etiology in cattle, sheep, horses and pigs using a complex drug treatment method was studied in the production environment. As a result, the drug was successfully used to treat respiratory diseases (bronchitis, bronchopneumonia), gynecological (mastitis, endometritis, metritis), eye (blepharitis, conjunctivitis, keratoconjunctivitis), surgical diseases (abscess, phlegmon, surgery), prophylactic hypo- and avitaminosis.

Treatment of diseases of the respiratory organs. For the treatment of farm animals with the help of “complex drug” initially external and internal adverse etiological effects were eliminated. Optimal zoo hygienic standards of animal care have

been established. Primary stressors (elvizak, ammonia gas, and moisture) were eliminated. The diet was enriched with protein, carbohydrates, vitamins, macro- and micronutrients. Once every 2 days, a “complex drug” was injected subcutaneously into sick animals at a rate of 5 ml / 100 kg body weight. In addition, the buildings were mechanically cleaned, disinfected with 3% formalin and 3% caustic soda solutions, current repairs and whitewashing with 5% slaked lime were carried out. Instructions were given to hold such events periodically.

Measures for the introduction of scientific development were introduced in the veterinary department “Abdusaid zoovetservice” in Taylak district of Samarkand region for 20 calves with acute and chronic bronchitis, acute bronchopneumonia and achieved 80-100% treatment efficiency. In addition, 20 head of cattle belonging to the population were slaughtered at the Zoo veterinary Department serving the “Bakhshitepa” neighborhood in Taylak district and also at the livestock farm of “Milk Agro” Limited Liability Company in Zangiota district of Tashkent region, 21 calves and at the dairy farm of “Milk and Meat Agro” Limited Liability Company, 14 calves were treated with a complex drug for respiratory diseases.

Treatment of gynecological diseases.

For the treatment of cows from gynecological diseases on public farms and livestock farms, the uterine cavity was first mechanically cleaned of foreign substances, washed with disinfectant solutions. A 20-ml “complex drug” was then injected into the uterine cavity for each cow using a syringe catheter. This procedure was repeated 2-3 times in 5-6 days. Depending on the general condition of the cow, other conservative treatment procedures may be performed. A “complex drug” was injected subcutaneously at a dose of 5 ml / 100 kg. As a result, all cows were treated for the disease. In addition, according to our observations in the production environment, in cows that received a “complex drug” for prophylactic purposes, the normal development of the calf in the uterus

during calving was observed, and the calves were born healthy and mobile.

The “complex drug” for the treatment of mastitis of various forms (catarrhal, hemorrhagic, serum, purulent) was used as follows. The diseased udder was milked, the exudate from the milk tank was sucked using a syringe-catheter and 10-15 ml of “complex drug” was sent to the udder using a syringe-catheter. To increase the effectiveness of treatment of mastitis, the drug oxytocin can be administered intramuscularly in a dose of 40-60 ME in order to cleanse the body of endotoxins. According to the physiological condition of the animal, 10% calcium chloride solution was administered intravenously in a dose of 150-200 ml. This procedure was repeated 2-3 times in 5 days.

Measures for the introduction of scientific development 19 head of cattle at the veterinary station “Abdusaid zoovetservice” in Taylak district of Samarkand region, 8 head of cattle at the veterinary station serving “Bakhshitepa” neighborhood at livestock farm of “Milk Agro” Limited Liability Company, and also “Milk and Meat Agro” Limited Liability Company, in Zangiota district of Tashkent region On the farm, 5 cows were effectively treated for gynecological diseases using a “complex drug”.

Prevention of hypo and avitaminosis.

In livestock farms, polyhypovitaminosis sometimes occurs due to a lack of certain vitamins in the body of cattle, and no obvious clinical signs are observed. As a result, the animal's body lags behind in growth, productivity decreases, and susceptibility to disease increases. Avitaminosis and hypovitaminosis were prevented in livestock farms where the complex drug was used, because the drug contains vitamins A, D and E.

Measures for the introduction of scientific development in the veterinary section “Abdusaid zoovetservice” of Taylak district of Samarkand region was introduced “complex drug” for 160 head of cattle, in “Bakhshitepa” Zoo - 14 head of cattle. In addition, 93 sheep at the dairy farm of “Milk Agro” Limited Liability Company in Zangiota district of Tashkent

region and 363 head of cattle at the dairy farm of "Milk and Meat Agro" Limited Liability Company by 90-100% with the help of a "complex drug" for the prevention of avitaminosis and also prophylactic efficacy was achieved. In accordance with the instructions, the introduction of "complex drug" provided the prevention of avitaminosis in the body of farm animals.

Treatment of eye diseases: Eye diseases - blepharitis, keratitis and keratoconjunctivitis - are prevalent in calves due to increased ammonia gas content and humidity in the building due to uneven flooring and poor mechanical cleaning in the buildings of dairy farms.

With the help of the "complex drug" for the treatment of eye diseases, the location of sick animals was changed and optimal zoo hygienic conditions were created. The feeding ration was enhanced. For treatment procedures 3-4 drops of "complex drug" were instilled into the conjunctively sac once a day. After 2-3 drops of the drug, the animals were treated. If necessary, a "complex drug" was injected.

Mechanical injury sometimes causes swelling of the eye in animals, hyperemia of the connective tissue shell, bleeding, purulent serum discharge. Sometimes in farm animals, the orbit of the eye is covered with a white film and the eye becomes blind. To treat such animals, the conjunctively sac of the eye was washed with 3% boric acid. Then 5-6 drops of "complex drug" suspension were instilled into the conjunctively sac. If necessary, a "complex drug" was injected. After 3-4 treatments, the animals' eyes were 100% cured.

In the production of the "complex drug" 15 head of cattle the population belonging to the veterinary department "Abdusaid zoovetservice" in Taylak district of Samarkand region, 5 head of cattle in the veterinary department "Bakhshitepa" of the same district, a total of 11 heads in the livestock farm "Milk Agro" Limited Liability Company Zangiota district of Tashkent region at the dairy farm of "Milk and Meat Agro" Limited Liability Company, measures were taken to introduce 12 head of farm animals. As a result of the

introduction of the drug, animals with eye diseases were successfully treated.

Treatment of surgical diseases. Various mechanical-traumatic injuries occur on livestock farms and cause problems for livestock breeders. Various staphylococci, streptococci, and other bacteria develop at the site of the mechanical injury, resulting in the formation of purulent foci in the animal's body. Treatment of wounds such as abscesses, phlegmon with the use of "complex drug" has a positive effect. In particular, abscesses and phlegmons located in different places in the trunk of farm animals were successfully treated with the use of this drug.

To do this, the exudate, sequestration and necrotic tissue at the wound site were surgically removed mechanically, a "complex drug" was applied to the wound cavity using drainage, and additional injections were given. Measures to introduce the drug showed that the "complex drug" had a high therapeutic and antiseptic effect in the treatment of surgical diseases, and in sick animals within 2-3 days observed granulation tissue growth and wound healing. The effectiveness of treatment is 90-100% is formed.

The introduction of scientific development was carried out in the veterinary section "Abdusaid zoovetservice" in Taylak district of Samarkand region in 20 head of cattle. Also, the "complex drug" was effectively used in the treatment of various surgical diseases, introduced in the livestock farm "Milk Agro" Limited Liability Company in Zangiota district of Tashkent region for 6 sheep and 8 dairy cattle in the dairy farm "Milk and Meat Agro" Limited Liability Company. 90-100% treatment efficiency was achieved. Table.

Results of treatment of various diseases of farm animals using a complex drug

№	Patient name	Animal type	Number of animal heads	Result %
1	Bronchitis, Bronchopneumonia	Calf	54	90-100
2	Hypo- and avitaminosis	Cattle, sheep	363 290	100
3	Gynecological diseases (endometritis, mastitis)	Cattle	13	80
4	Keratitis, Conjunctivitis, Keratoconjunctivitis	Sheep, Calf	21 30	100
5	Surgical diseases (abscess)	Horse	2	100
6	Surgical diseases (traumatic injury)	Dog	2	100
7	Surgery (phlegmon)	Cattle	13	90
8	Surgery (traumatic injury)	Sheep	9	100
9	Surgical diseases (abscess)	Cattle	33	100
10	Surgical diseases (abscess)	Sheep	20	100
	TOTAL		850 head	

1. The components of the complex drug have a broad-spectrum antimicrobial effect; The combination of components of the drug has created an advantage over other bacteriostatics. Such a **combination gave synergistic** (enhancing the effect of one drug to another) and **prolongation** (prolonging the effect of the drug) properties;

2. Pharmacokinetics of the complex drug has a bactericidal and bacteriostatic effect on mycobacteria, gram-negative (Escherichia coli, salmonella, klebsiella, tularemia, etc.) and some gram-positive (staphylococci, pneumococci, streptococci) microorganisms; Successfully treated respiratory diseases of farm animals (bronchitis, bronchopneumonia), gynecological (mastitis, metritis), ophthalmological (blepharitis, conjunctivitis, keratoconjunctivitis), surgical diseases (abscess, phlegmon, surgical operations), hypo- and prophylaxis of avitaminosis was achieved.

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