ISSN: 2181-3337 | SCIENTISTS.UZ VOLUME 5 ISSUE 8 AUGUST 2026

EFFECTIVENESS OF THE IMMUNOCORRECTION-DEWORMING-VACCINATION CHAIN BASED ON THE DOSTIM IMMUNOCORRECTOR IN THE PREVENTION OF INFECTIOUS DISEASES IN SERVICE DOGS

Abduraxmonov Sanjar[1], Abduraupova Shahrizoda[2], Ulmasov Botir[3]
Master's students, Tashkent State Agrarian University[1,2]
Associate Professor, Department of Veterinary Medicine[3]
doc-ulmasov@mail.ru

DOI: 10.67620/sai.58d0001

ABSTRACT
The effectiveness of organizing the prevention of infectious diseases in young service-dog puppies on the basis of an immunocorrection-deworming-vaccination sequence was evaluated. A total of 16 puppies were included in the study, and four groups were formed according to breed: Labrador, Belgian Shepherd, German Shepherd, and Cocker Spaniel. Each group contained 2 experimental and 2 control animals. In the experimental groups, Dostim was administered at a dose of 0.4-0.6 mL for 1-5 kg of live body weight, three times at 3-day intervals. Five days later, Adjipras and Azinox Plus were given at a dose of 1 tablet per 10 kg of live body weight, twice at 14-day intervals, after which Multican-5 vaccination was performed. Clinical observation was conducted for 21 days after vaccination. The same regimen was maintained in the control groups, except that Dostim was not administered. Various clinical signs were recorded in the control animals, whereas none were observed in the experimental animals treated with Dostim. The results indicate a positive clinical trend associated with the immunocorrection stage in this preventive chain.

ACCEPTED

25.08.26

Keywords: *service dogs, puppies, Dostim, immunocorrection, infectious diseases, deworming, vaccination, immunization, prevention.*



Introduction

Since the first days of our independence, great attention has been paid to national security both during the tenure of our First President I.A. Karimov and under our President Sh.M. Mirziyoyev. Therefore, special attention is also given to developing the structures that support these services. Cynology is one such field. In order to develop this field comprehensively, President Sh.M. Mirziyoyev signed a decree "On the Development of National Cynology." On the basis of this decree, it was stipulated that National Cynology Centers within security and law-enforcement structures should be further improved and that the activities of their kennels (service-dog training facilities) and schools for training canine inspectors should be brought to the level of developed countries. For the purpose of developing cynology and training qualified personnel for this field,

The dog is considered one of the animals most loyal to humans. According to J. Cuvier, dogs are among the most unique, useful, and highly developed discoveries of humankind. Humans recognized dogs' exceptional intelligence, acute sense of smell, good vision and hearing, speed, and endurance, and therefore brought them closer than other animals (Narziyev & Uzoqova, 2010).

Since ancient times, people have used dogs for hunting and for guarding homes. The use of dogs in the military sphere is also particularly effective. They are widely used to guard borders, locate and apprehend criminals, search for explosives and narcotic substances, and protect military facilities. Thus, dogs not only provide emotional support to people, but also make a significant contribution to economic development.

Veterinary medicine has become one of the important fields today. At present, veterinary work concerns not only the health of livestock, but also the health of companion animals, including service dogs widely used in the canine units of state special services, as well as their breeding and proper care. The prevention of infectious diseases plays an important role in maintaining the health and working ability of service dogs. In young puppies, while the immune system is still developing, factors such as parasitic infestations and subsequent vaccination may place an additional burden on the body. Therefore, organizing preventive measures as an interconnected sequence is of practical importance (Day, 2007; O‘lmasov, 2023).

The main idea of this study is to support the general resistance of the body by carrying out immunocorrection before deworming and to compare the clinical condition after subsequent vaccination with that of the control group.

The materials provided for Dostim indicate that, as an immunocorrector, the preparation is intended to activate cellular and humoral immunity, phagocytosis, and antibody production.

Research Aim and Objectives

Canine distemper is one of the serious diseases occurring in dogs. Puppies affected by this disease rarely survive. Adult dogs have a greater chance of recovery. Dogs that recover from distemper retain immunity to the disease for the rest of their lives. In dogs, the viruses that cause distemper spread through the digestive and respiratory systems. Once they enter the animal's body, the viruses affect all organs through the circulatory system. The initial stage of the disease remains latent for several days, during which time the virus spreads throughout the body. Distemper is not considered a seasonal disease because the virus can survive even at -24 °C. At the same time, cases of the disease in dogs are recorded more frequently in spring and autumn. Animals susceptible to the disease include poorly nourished dogs, puppies under one year of age, and stray dogs (Gaskell & Bennett, 2014; Martella et al., 2008; Ravilov, n.d.).

Affected dogs show weakness, loss of appetite, reddening around the eyes, and discharge from the nose and eyes. Photophobia develops in sick dogs, and they tend to hide in the shade. The body temperature of affected dogs rises to +40 °C and may remain elevated for 2-3 days. Adult dogs with strong immunity may overcome the disease on their own, but in weak dogs and young puppies the disease continues and the condition may rapidly worsen. Dogs that have recovered from distemper may experience deterioration in hearing, smell, and vision.

Treatment and Prevention Measures for Affected Dogs

The most appropriate way to identify the clinical signs of distemper is through examination by a veterinarian. Specific medicines that treat the viruses causing canine distemper have not yet been developed. After examining the affected dog, the veterinarian prescribes comprehensive treatment according to its condition. The use of preparations that enhance immunity is important in the treatment of dogs. It is important for the owner of an affected dog to provide appropriate supportive conditions to help it survive the disease. The dog's kennel should be dry, warm, and free from drafts. Exposure to light should be reduced because photophobia becomes pronounced in affected dogs. Discharge from the nose and eyes should be removed, and wounds on the body should be cleaned with disinfectant solutions. The food provided should be easily digestible. Liquid soups containing finely chopped meat and porridges can help dogs recover more quickly.

The only means of preventing canine distemper is vaccination. The first vaccination is administered when puppies are 2-3 months old. Dogs are usually vaccinated after deworming. Current canine

ISSN: 2181-3337 | SCIENTISTS.UZ

vaccination guidelines emphasize age-appropriate core vaccination schedules and the influence of maternally derived antibodies on puppy immunization (Day et al., 2016; Ellis et al., 2024). Although vaccination performed in this order has generally produced good results in dogs receiving their first vaccination, cases in which clinical signs of adenovirus, parvovirus, and gastroenteritis appear in puppies within 7-14 days after vaccination have been observed. Large-scale clinical surveillance has also documented vaccine-associated adverse events in dogs within the first several days after vaccination (Moore et al., 2005). For canine parvovirus, persistent disease burden and immunisation failures, including those associated with maternally derived antibodies, are well recognized (Decaro & Buonavoglia, 2012; Decaro et al., 2020). Therefore, our scientific research is aimed at preventing the development of viral pathogens in the body after vaccination by strengthening the immune system before the vaccination procedure. Earlier regional conference literature has also examined factors influencing immunity during vaccination against canine distemper (Sagdiev, n.d.).

The main aim of the study is to determine the effectiveness of a preventive chain based on the sequential implementation of immunocorrection, deworming, and vaccination in young service-dog puppies, and to evaluate the practical significance of the Dostim immunocorrector within this chain.

- grouping puppies by breed and age
- carrying out immunocorrection with Dostim before deworming
- applying the same deworming and vaccination regimen in the experimental and control groups
- monitoring the clinical condition for 21 days after vaccination
- comparatively evaluating the results

Materials and Research Methods

A total of 16 puppies were included in the study. Four 2.5-month-old Labradors, four Belgian Shepherds aged 2 months and 10 days, four 2-month-old German Shepherds, and four 3-month-old Cocker Spaniels were selected. Each breed group included 2 experimental and 2 control animals; in total, 8 animals formed the experimental group and 8 animals formed the control group (Table 1).

Table 1

Study Group Composition by Breed and Age

Group	Breed	Age	Total	Experimental	Control
I	Labrador	2.5 months	4	2	2
II	Belgian Shepherd	2 months 10 days	4	2	2
III	German Shepherd	2 months	4	2	2
IV	Cocker Spaniel	3 months	4	2	2
Total	—	—	16	8	8

In the experimental groups, Dostim was administered at a dose of 0.4-0.6 mL for 1-5 kg of live body weight, three times at 3-day intervals. Five days after Dostim administration, Adjipras and Azinox Plus were given at a dose of 1 tablet per 10 kg of live body weight, twice at 14-day intervals. Subsequently, Multican-5 vaccination was performed, followed by 21 days of clinical observation.

The same deworming and vaccination regimen was applied in the control groups, but Dostim was not administered. Thus, the principal distinguishing factor in the study was the immunocorrection stage before deworming.

Research Results

In Labrador puppies in the control group, deterioration of general condition, loss of appetite, recumbency, and an increase in body temperature to 40.5 °C were observed during the 2 days following vaccination. In the Belgian Shepherd group, diarrhea was recorded 1 day after vaccination (Figure 1).

In the German Shepherd group, reduced activity, loss of appetite, and a decreased heart rate were observed. In the Cocker Spaniel group, vomiting, loss of appetite, an increase in body temperature to 41.5 °C, and diarrhea were recorded on the 14th day after vaccination (Figure 2).

None of the clinical signs listed above were observed in the 8 experimental animals that underwent immunocorrection with Dostim. This result indicates a positive clinical trend associated with the immunocorrection stage (Table 2).

Figure 1

Number of Animals With Recorded Clinical Signs in the Control Groups

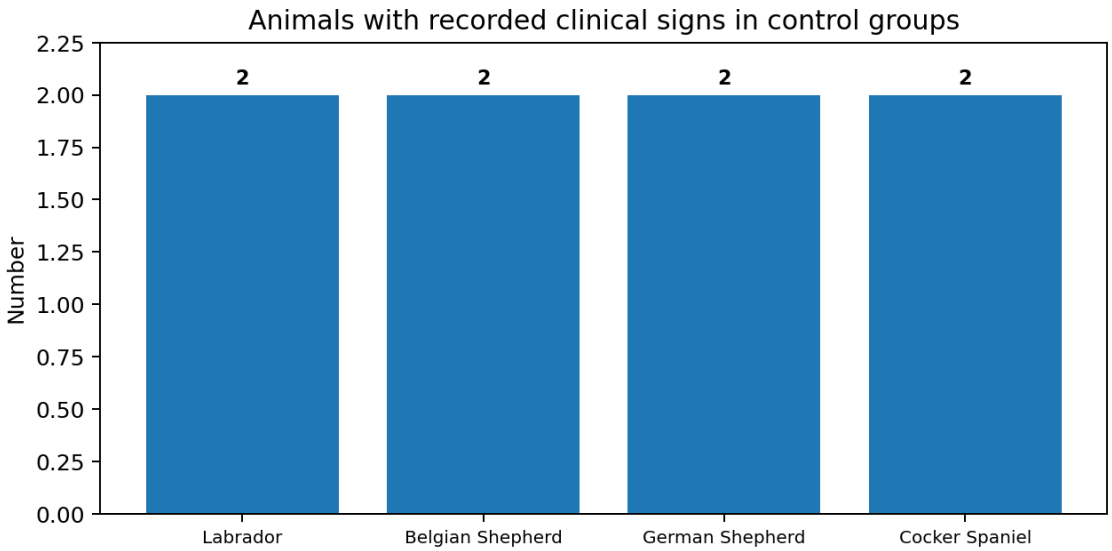
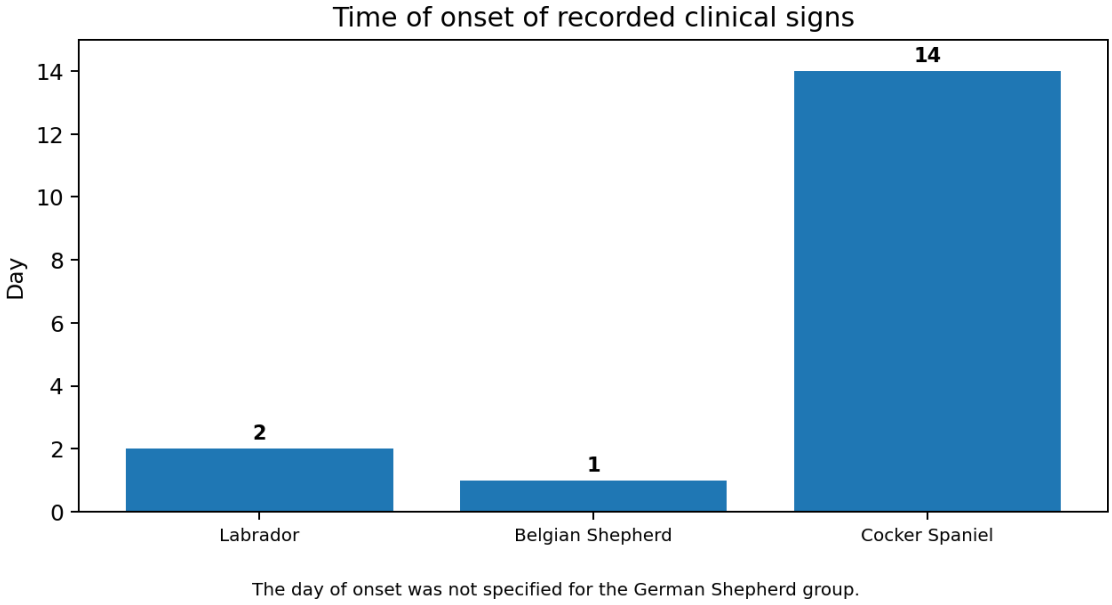


Figure 2

Time of Onset of the Recorded Clinical Signs



Note. The day of onset was not specified for the German Shepherd group.

ISSN: 2181-3337 | SCIENTISTS.UZ

Table 2

Post-Vaccination Clinical Observations

Group	Breed	Signs recorded in the control group	Time	Experimental group
I	Labrador	Deterioration of general condition; loss of appetite; recumbency; T=40.5 °C	2 days	Not observed
II	Belgian Shepherd	Diarrhea	1 day	Not observed
III	German Shepherd	Reduced activity and appetite; decreased heart rate	Not specified	Not observed
IV	Cocker Spaniel	Vomiting; loss of appetite; T=41.5 °C; diarrhea	14th day	Not observed

Because the experimental and control groups underwent deworming and vaccination according to the same regimen, with the main difference being whether Dostim was administered, the observed clinical differences may be interpreted as a possible positive effect associated with the immunocorrection stage.

However, because each subgroup contained only 2 animals, statistical generalization of the results to a broader population is limited. Since immunological markers and antibody titers were not provided, the clinical results do not constitute direct evidence of the immunological mechanism and should be regarded as clinical observations.

In future studies, increasing the number of animals, performing a complete blood count and leukocyte differential, determining immunoglobulins and post-vaccination antibody titers, and conducting statistical analysis would increase the scientific reliability of the study.

Conclusions and Practical Recommendations

1. Of the 16 puppies, 8 were assigned to the experimental group and 8 to the control group.
2. In the experimental group, Dostim was administered at 0.4-0.6 mL for 1-5 kg of live body weight, three times at 3-day intervals.
3. Five days after Dostim administration, deworming was carried out, followed by Multican-5 vaccination and 21 days of clinical observation.
4. In the control group, the remainder of the preventive regimen was repeated without the administration of Dostim.
5. During the 21-day observation period, various clinical signs were recorded in the control groups, whereas none were observed in the experimental groups treated with Dostim.

The use of an immunocorrection-deworming-vaccination sequence in organizing the prevention of infectious diseases in young service-dog puppies may be regarded as a promising approach. Dostim should be administered under the supervision of a veterinarian and in accordance with the instructions for the preparation.

REFERENCES

1. Day, M. J. (2007). Immune system development in the dog and cat. *Journal of Comparative Pathology, 137*(Suppl. 1), S10–S15. https://doi.org/10.1016/j.jcpa.2007.04.005
2. Day, M. J., Horzinek, M. C., Schultz, R. D., & Squires, R. A. (2016). WSAVA guidelines for the vaccination of dogs and cats. *Journal of Small Animal Practice, 57*(1), E1–E45. https://doi.org/10.1111/jsap.2_12431

ISSN: 2181-3337 | SCIENTISTS.UZ

3. Decaro, N., & Buonavoglia, C. (2012). Canine parvovirus—A review of epidemiological and diagnostic aspects, with emphasis on type 2c. *Veterinary Microbiology, 155*(1), 1–12. https://doi.org/10.1016/j.vetmic.2011.09.007
4. Decaro, N., Buonavoglia, C., & Barrs, V. R. (2020). Canine parvovirus vaccination and immunisation failures: Are we far from disease eradication? *Veterinary Microbiology, 247*, 108760. https://doi.org/10.1016/j.vetmic.2020.108760
5. Ellis, J., Marziani, E., Aziz, C., Brown, C. M., Cohn, L. A., Lea, C., Moore, G. E., & Taneja, N. (2024). 2022 AAHA canine vaccination guidelines (2024 update). *Journal of the American Animal Hospital Association, 60*(6), 1–19. https://doi.org/10.5326/JAAHA-MS-7468
6. Gaskell, R., & Bennett, M. (2014). *Handbook of infectious diseases of dogs and cats*. Moscow.
7. Martella, V., Elia, G., & Buonavoglia, C. (2008). Canine distemper virus. *Veterinary Clinics of North America: Small Animal Practice, 38*(4), 787–797. https://doi.org/10.1016/j.cvsm.2008.02.007
8. Moore, G. E., Guptill, L. F., Ward, M. P., Glickman, N. W., Faunt, K. K., Lewis, H. B., & Glickman, L. T. (2005). Adverse events diagnosed within three days of vaccine administration in dogs. *Journal of the American Veterinary Medical Association, 227*(7), 1102–1108. https://doi.org/10.2460/javma.2005.227.1102
9. Narziyev, B. D., & Uzoqova, D. P. (2010). *General and special training of dogs: Study guide*. Samarkand.
10. O‘lmasov, B. F. (2023). *Diseases of dogs and fur-bearing animals: Study guide*. Tashkent.
11. Ravilov, R. Kh. (n.d.). Incidence of canine distemper among dogs in Kazan. *Conference proceedings*.
12. Sagdiev, D. I. (n.d.). Effect of antioxidants on the formation of immunity during vaccination of dogs against canine distemper. *Conference proceedings*.

ISSN: 2181-3337 | SCIENTISTS.UZ