

Comparing of some treatment methods of canine oral papilloma in Samarkand condition (71 cases)

Jasurbek Yulchiyev^{1}, Kurbon Norboyev¹, Mirjalol Ravshanov¹, Sevara Khaydarova¹, Tolmas Khatamov¹, and Ozod Nematullayev¹*

¹Samarkand State University of Veterinary Medicine, Livestock and Biotechnologies, Samarkand, Uzbekistan

Abstract. This article describes the origin of oral papilloma, which is widespread among dogs, its prevalence, clinical signs of the disease, accurate and express diagnostic methods, as well as information obtained as a result of research to improve methods of treatment and prevention. In the course of the study, specific symptoms, diagnosis and differential diagnosis of dogs infected with this disease, the study of methods for treating the disease and recommendations for the prevention of the disease are given.

1 Introduction

Papillomas of the oral cavity of dogs is currently a viral disease that is widespread mainly among young dogs. The disease occurs mainly in the tongue, gums, upper and lower palate, larynx, and even the throat and esophagus wick of young dogs that are in contact with sick animals. Papillomas are very small in shape and resemble cauliflower. But due to the virulence fo the of the virus and the dog's immune system problems, their number can be very high. Clinical symptoms such as hypersalivation and bleeding from the mouth, difficulty in swallowing and chewing are manifested in the disease. As a result of the development of the inflammatory process in the oral cavity erosion of the mucous membranes of the mouth, will increase stomatitis and finally, the animal loses weight and even dies due to the disturbance of the food intake process as a result of the disease. According to the age-related nature of the disease, it is more common in young dogs under 3 years of age and in dogs over 10 years old. Depending on the dog breed, the following dog breeds are susceptible to the disease: Central Asian Shepherds, Belgian Malinois, Pekingese, Cocker Spaniels, Kerry Blue Terriers, Rottweilers, German Shepherds, Labrador Retrievers, and some local breeds. The diagnosis of the disease is primarily based on anamnesis data, clinical symptoms, and the results of laboratory tests. After the diagnosis is fully established, specialists will develop a treatment plan for the disease, which can use conservative and operative methods. In many cases, pet owners use ineffective methods of disease treatment as a result of applying various ointments on their

* Corresponding author: yulchiyevjs@ssuv.uz

own, and consesquence, will develop malignant tumors of the oral cavity - carcinoma and sarcoma. Therefore, rapid and correct selection of treatment methods helps to eliminate the consequences of the disease. Disease treatment methods should be directed mainly at neutralizing the virus and stopping the growth of papillomas.

2 Materials and methods

Experiments carryied out during 2021-2023 in the clinic of the Department of "Veterinary Surgery and Obstetrics" of the Samarkand State University of Veterinary Medicine, Livestock and Biotechnologies. In experiments used 20 dogs were performed spontaneously infected with oral cavity papillomas in dogs belonging to the service dog kennel belonging to the Samarkand regional Department of Internal Affairs, in the "Terra" street dogs shelter wich located in the city of Samarkand, and in the street dogs shelter belonging to the Samarkand city improvement department. In 28 dogs with papilloma, oral cavity papillomas, 20 skin papillomas, 12 paw papillomas, and 11 other papillomatous pathologies were found. In order to treat the disease, a total of 4 experimental and 1 control groups of 5 heads were formed in each group.

Table 1. Treatment methods of oral papilloma of dogs.

No.	Groups	The number of dogs	Scheme of treatment	Doses
1	1-experimetal group	5	were injected with 1% novocaine suspension	0.2 ml per 1 kg of body weight, a total of 5 times injection
2	2-experimetal group	5	were injected subcutaneously with fosprenil antiviral immunomodulator for 5 days	On the 1st day, 3 ml per 10 kg of body weight; 2.5 ml per 10 kg of body weight on the 2nd day; and 2 ml per 10 kg of body weigh on the 3 days
3	3-experimetal group	5	all tumors were surgically removed by electracoagulators after the operation, cyclophosphane antitumor drug	was injected 3 times intramuscles every 3 day
4	4-experimetal group	5	was injected with cycloferon immunomodulator	0.5 ml per 10 kg of body weight for 5 days.
5	Control group	5	were not treated	

3 Results and Discussion

The appearance of papillomatous tumors in the body of dogs is also related to the conditions of keeping and feeding dogs. The appearance of papillomas varies according to the age of dogs. As a result of observations, we proved that the incidence of papillomas of the oral cavity was recorded mainly in young dogs, that is, in dogs aged 1-3 years. On the other hand, cases of skin tumors were observed mostly among 7-12-year-old dogs.

Observations on breed indicators of tumors showed that 10% (7 heads) of dogs infected with papillomatosis were German Shepherds, 5% (3 heads) Malinois, 20% (14 heads) Central Asian Hounds, 15% (10 heads) pit bulls, 5% (3 heads) of terriers, and the remaining 15% (10 heads) of other breeds of dogs and the remaining 35% (24 heads) of domestic breeds.

Oral papillomas were observed in 3 Malunua dogs, 5 German Shepherds, 8 Central Asian Shepherds, 1 Pekingese, 1 Pinscher, 10 domestic dogs.

According to the number of tumors in the oral cavity, the number of dogs with up to 10 tumors was 10 (35.7%), dogs with more than 10 tumors were 18 (64.3 %). The largest tumors were 13-18 mm, and the smallest ones were 1.5-2 mm.

Clinical signs of dogs with tumors include regular oral bleeding, difficulty swallowing, drooling, and ulceration. For more details, please see our previous study [16].

Analysis of the obtained results. The appearance of papillomatous tumors in the body of dogs is also related to the conditions of keeping and feeding dogs. The appearance of papillomas varies according to the age of dogs. As a result of observations, we proved that the incidence of papillomas of the oral cavity was recorded mainly in young dogs, that is, in dogs aged 1-3 years. On the other hand, cases of skin tumors were observed mostly among 7-12-year-old dogs.

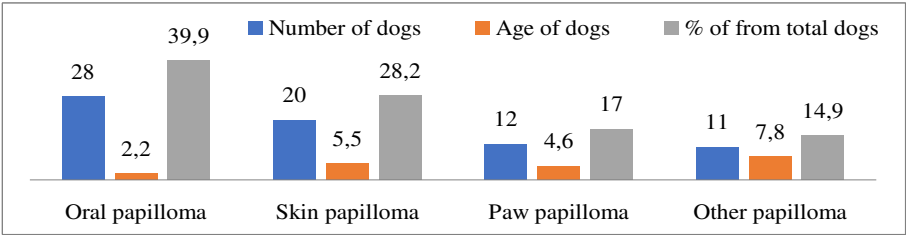


Fig. 1. Incidence of papilloma in dogs (by age and number of dogs).

Observations on breed indicators of tumors showed that 10% (7 heads) of dogs infected with papillomatosis were German Shepherds, 5% (3 heads) Malinois, 20% (14 heads) Central Asian Hounds, 15% (10 heads) pit bulls, 5% (3 heads) of terriers, and the remaining 15% (10 heads) of other breeds of dogs and the remaining 35% (24 heads) of domestic breeds.

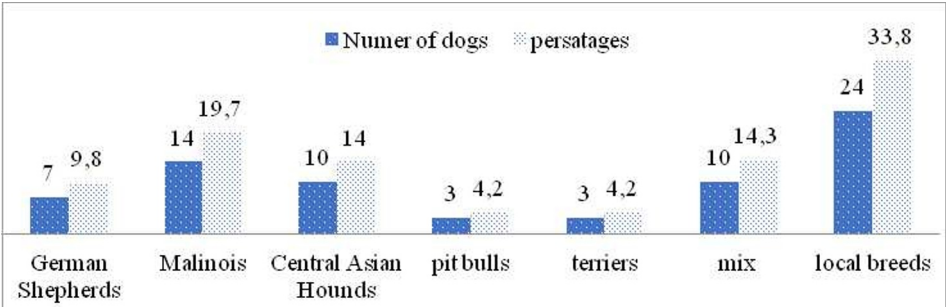


Fig. 2. Observations on breed indicators of papilloma of dogs.

Oral papillomas were observed in 3 Malunua dogs, 5 German Shepherds, 8 Central Asian Shepherds, 1 Pekingese, 1 Pinscher, 10 domestic dogs.

According to the number of tumors in the oral cavity, the number of dogs with up to 10 tumors was 10 (35.7%), dogs with more than 10 tumors were 18 (64.3 %). The largest tumors were 13-18 mm, and the smallest ones were 1.5-2 mm.

Clinical signs of dogs with tumors include regular oral bleeding, difficulty swallowing, drooling, and ulceration.

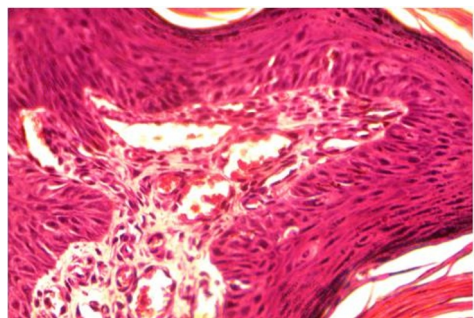


Fig. 3. Progressive type of papilloma (lengthwise cut). Stained with hematoxylin-eosin, objective x40, eyepiece x10.

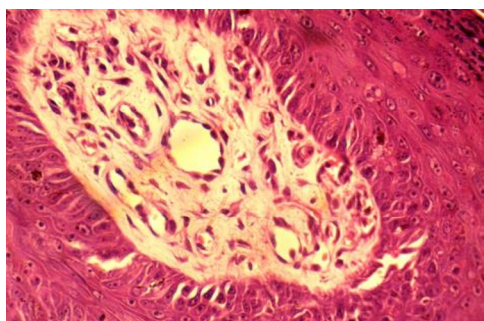


Fig. 4. Hyper keratinized type papilloma (transverse section). Stained with hematoxylin-eosin, objective x40, eyepiece x10.



Fig. 5. Oral papilloma of service dogs.

As a result of intravenous administration of 1% novocaine solution to dogs in the first experimental group, it was noted that the tumors turned white and their small pieces were

absorbed or dried up by the 25-26th day of the experiment. By 35-40 days of the experiment, the disease was completely cured. Relapses and metastases were not observed.

In the dogs of the second experimental group, as a result of the use of the fosprenil drug, all tumor tissues dried up by the 14-15th day of the experiment. Relapses and metastases were not observed.

In the third experimental group, after surgical excision with the help of an electrocoagulator, as a result of the use of chemotherapy, the wounds were completely healed by the 11-12th day of the experiment, relapses and metastases were not observed.

In the dogs of the fourth experimental group, when using cycloferon drug, the tumors turned white on days 22-25 of the experiment and completely dried up on days 28-39. Relapses and metastases were not observed.

In the dogs of the control group, on the 60-65th day of the experiment, 2 head tumors turned white and dried up on their own on the 65-70th day, 1 dog developed squamous cell cancer, and 2 dogs developed purulent stomatitis.

4 Conclusion

- The prevalence of various papillomatous tumors among dogs is on average 10-12%, of which 39% are oral papillomas, 28% are skin papillomas, 17% are interlobular papillomas, and the remaining 16% are other types of papillomas.
- Papillomas of the oral cavity are recorded in dogs at 1-3 years of age, and skin papillomas at 7-12 years of age.
- Prompt and timely removal of tumors of the oral cavity leads to the prevention of other diseases of the oral cavity, in particular, squamous cell carcinomas.
- The use of fosprenil immunomodulator in the treatment of papillomas of the oral cavity leads to the recovery of the disease in the 2nd week. Surgical removal with the help of an electrocoagulator and chemotherapy with cyclophosphan eliminates the disease in 11-12 days.
- In order to prevent the spread of oral papillomas in dog kennels and kennels, it is recommended to observe sanitary rules and to undergo dispensation of dogs twice a year.

References

1. N. Baxtiyor, Y. Jasurbek, The diagnosis and effect of breast tumors treatment in dogs, *Journal of Microbiology, Biotechnology and Food Sciences*, 475-477 (2021)
2. Science, <https://science.uq.edu.au/article/2021/08/first-national-dog-and-cat-cancer-database-making-0>
3. H.E. Lane, J.S. Weese, J.W. Stull, Canine oral papillomavirus outbreak at a dog daycare facility, *Can Vet J.*, **58**, 7, 747-749 (2017)
4. P.A.A. Raj, S. Pavulraj, M.A. Kumar, S. Sangeetha, R. Shanmugapriya, S. Sabithabanu, Therapeutic evaluation of homeopathic treatment for canine oral papillomatosis, *Vet World.*, **13**, 1, 206-213 (2020) doi: 10.14202/vetworld.2020.206-213.
5. J.P. Sundberg, E.K. Smith, A.J. Herron, A.B. Jenson, R.D. Burk, M. Van Ranst, Involvement of canine oral papillomavirus in generalized oral and cutaneous verrucosis in a Chinese Shar Pei dog, *Veterinary Pathology*, **31**, 2, 183-187 (1994)

6. M. Atasoy, S. Ozdemir, A. Aktas, C. Aliagaoglu, A. Karakuzu, T. Erdem, Treatment of confluent and reticulated papillomatosis with azithromycin, *The Journal of Dermatology*, **31**, **8**, 682-686 (2004)
7. Y.J. Bakhodirovich, D.N. Bobokulovich, Treatment and Prevention of Transmissive Veneric Sarcoma in Dogs. *Eurasian Medical Research Periodical*, **7**, 81-85 (2022)
8. N. Baxtiyor, Y. Jasurbek, The diagnosis and effect of breast tumors treatment in dogs, *Journal of Microbiology, Biotechnology and Food Sciences*, 475-477 (2021)
9. V.N. Gryazin, The use of an interferon inducer for the treatment of canine papillomatosis. Topical issues of veterinary medicine. Abstracts of the report of the 1st scientific and practical, Conf. Faculty of Veterinary Medicine NSAU Novosibirsk (1997)
10. S.V. Ozherelkov, O.Yu. Sosnovskaya, T.N. Kozhevnikova, V.A. Bekhalo, E.V. Nagurskaya, A.Yu. Pronin, A.V. Sanin, R.V. Belousova, The main mechanisms of the antiviral action of fosprenil - a drug of natural origin, Kyiv in the VII Int. Conf. by prob. veterinary care for small animals (2002)
11. A.G. White. Richard, *Oncological diseases of small domestic animals*, M., 98-100, 210-212, 175-189 (2003)
12. A.V. Sanin, The use of immunomodulators in viral diseases of small domestic animals. *Russian journal of veterinary medicine*, **1**, 38-42 (2005)
13. B.F. Shulyak, *Viral infections in dogs*, Moscow, Olita, 568 (2004)
14. J. Yulchiyev, K. Norboyev, T. Mirzayev, Visual diagnosis of internal tumors of dogs and cats in Samarkand, In *BIO Web of Conferences*, **95**, 01017 (2024)
15. R. Ruzikulov, R. Mirsaidova, Sh. Abdullayev, Strategy of the genome of viruses and bacteria and problems of immune prevention in industrial poultry farming, In *BIO Web of Conferences*, **95**, 01032 (2024)
16. J.B. Yulchiyev, Surgical and conservative treatments of oral papilloma in dogs, *Veterinariya medetsinasi*, **06(187)**, 116-118 (2023)