



Use of Cyclophosphan in the Protection of Breast Tumors in Canine after Surgery

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Abstract: In this article present the etiology, clinical signs, and the results chemotherapy of treating dogs with breast cancer with cyclophosphan.

Keywords: breast cancer, tumor, mastectomy, chemotherapy, cyclophosphamide, estrogenic hormones, nitrogen yarn, lymphogranulomatosis, light therapy, etiopathogenesis, hormone therapy, immunotherapy.

Relevance of the topic. Currently, one of the most common pathologies among dogs is neoplastic pathology, a variety of pathological processes that can be found in many dogs, including the mammary gland, which can slow them down, reduce their functionality and in some cases lead to their death [4,5,6,7,11].

The spread of tumors among dogs is as common in humans as it is spontaneous. The anatomical structure of mammary tumors in dogs is at the forefront today. A higher number of mammary glands in dogs than in other animals, differences in the functioning of the circulatory and lymphatic systems in the mammary glands, and, of course, the characteristics of the sexual cycle, contribute to an increased risk of developing breast cancer in dogs. One of the main causes of breast cancer and serious complications in dogs are anthropogenic factors such as neglect by dog owners, delayed consultations with veterinarians, and a general deterioration in the overall health of the dog [1]. Therefore, it is important for dogs to study breast cancer, including breast cancer, and apply chemotherapy to treat them effectively.

Materials and methods of research. The study was conducted in a surgical clinic at the Department of Veterinary Surgery and Obstetrics at the Faculty of Veterinary Prevention and Treatment at the Samarkand State University of Veterinary Medicine, Livestock and Biotechnologies, in the vivarium, on dogs in Samarkand, at the Samarkand State Veterinary Department and at the Samarkand Regional Cancer Center. Dogs infected with breast cancer, their blood samples and tumor tissues were collected as study subjects. The aim of the study was to study the etiopathogenesis of mammary tumors in dogs, the use of early diagnostic methods and the improvement of treatment methods.

For chemotherapy, dogs infected with breast cancer were divided into 5-2 groups, i.e. experimental and control groups.

Dogs in the experimental group were injected intravenously with the anticancer drug cyclophosphone 200 mg once every 15 days after mastectomy for 15 days.

Dogs in the control group received cefazolin intravenously once a day after mastectomy for 15 days.

Discussion of the obtained results. As a result of experiments on mammary tumors and dispersal of dogs in dogs, the incidence of tumors among dogs in the country ranged from 3 to 14 years, with the

highest incidence among dogs aged 6-9 years. It has been estimated that 75-80% of mammary-infected dogs are dogs that have never given birth or have given birth several times during their lifetime.

Experiments have shown that malignancy of females in females, chronic hormonal secretion of sex hormones for many years and the subsequent development of tumors are due to the development of vascular hyperemia and hyperplasia of gland tissues. At the same time, there is a dramatic increase in tumor size as a result of neglect by dog owners in the population, its progressive growth, and the fact that the tumor was consulted only by a veterinarian at the stage of transition from local pathology to general pathology.

Surgery (mastectomy) is used as the main treatment in veterinary oncology (Figure 1). Conservative treatments for tumors include chemotherapy, hormone therapy, immunotherapy, radiation therapy, cryosurgery, and general hyperthermia.



Figure-1 Mastectomy of breast fibroma

Today, along with surgical methods, anticancer chemotherapy is widely used and used mainly to control the growth of tumor tissue as a preoperative treatment in preoperative or metastatic cases.

Chemotherapy of malignant tumors is one of the most important methods of treatment in oncology and is based on the use of various chemicals against malignant tumors. The history of modern chemotherapy dates back to 1946. It was first used to treat lymphogranulomatosis, a powerful toxic substance, and nitrogen yarn.

It is important to increase the effectiveness of treatment in combination with anticancer drugs and other chemotherapeutic procedures (surgery, radiation therapy).

Systemic, regional and local (local) types of drug administration vary. Systemic chemotherapy is the introduction of drugs into the bloodstream in all ways to have a general effect on the spread of tumors.

Местная химиотерапия - это прямое введение химического вещества в виде мази или жидкости, инъекция в полости (плевра, брюшина, желчный пузырь и т. Д.) Или интрамуральная опухоль.

Dogs in the experimental group were given postoperative chemotherapy, anticancer drugs were administered by a multichannel route, cyclophosphone 200 mg (10 ml of 0.9% sodium chloride solution), dissolving protein synthesis in tumor cells every 3 days.



Figure-2 Cyclophosphamide, a chemotherapy drug used to treat breast cancer in dogs.

Cyclophosphone is a white crystalline powder (Fig. 2), an antitumor drug that can be administered intravenously or in infusion, as well as intramuscularly in solution, and is an alkylating drug close to nitrogen thread analogs. The drug has a cytostatic and immunosuppressive effect [2-3].

Absorption of tumor cells through components that directly affect the phosphatase process, and cellular protein molecules penetrate into nucleophilic centers, disrupting the synthesis of DNA and RNA and blocking the mitosis process. The drug is mainly for acute and chronic lymphoblastic, lymphocytic, myeloid and myelogenous leukemias; malignant lymphomas, plasmacytomas and their metastases, ovarian cancer, lung cancer, all types of breast tumors, neuroblastomas, sarcomas and osteosarcomas; recommended for use in progressive "autoimmune diseases": pathologies such as rheumatoid arthritis, psoriatic arthropathy, scleroderma and systemic vasculitis [4-5].

The use of cyclophosphonic chemotherapy reduces surgical wound healing by 3-5 days (15-17 days), reduces the symptoms of inflammation in the wound, reduces edema and colloidal fluids due to the restoration of blood and lymphatic circulation, reduces ulcerative acidosis, proteolysis and enhances phagocytosis. It has been shown to be superior to the process, the growth of granular tissue on the surface of the wound, the acceleration of epithelialization and scar formation.

The general condition of the dogs was satisfactory, body temperature was 37-38°C, respiratory rate was 20-22 h/m, and heart rate was 75-80 h/m.

In addition, the adverse effects of tumor tissue and cells on the body were not felt at all. There were no metastases and recurrences in the body of sick dogs. It was found that postoperative wounds in control dogs were treated with secondary traction, and epithelialization and scarring were completed by 23-25 days.

Conclusions.

1. In Samarkand, the prevalence of all types of tumors among puppies is 5-7%, of which 35-40% are mammary tumors.
2. The main treatment for breast cancer is a surgical procedure that undergoes a mastectomy.
3. The use of the chemotherapeutic drug cyclophosphamide in addition to surgical procedures in the treatment of breast tumors is effective and prevents the formation of metastases and relapses.

References

1. Л.Ф. Лосева, Ф.В. Доненко, О.В. Лебединская. Некоторые особенности фармакодинамики циклофосфана у экспериментальных животных// Медицинская иммунология. – 2011, Т. 13. № 4–5. – С. 52.

2. Cyclophosphamide enhances immunity by modulating the balance of dendritic cell subsets in lymphoid organs / T. Nakahara, H. Uchi, A. M. Lesokhin // *Blood*. – 2010. – Vol. 115, №22. – P. 4384–4392.
3. Якунина М.Н, Трещалина Е.М., Шимширт А.А. «Переносимость собаками и кошками химиотерапии с таксотером при раке молочной железы» // *РВЖ*, 2010 г. - №2. - стр. 12-15.
4. Yulchiev, J. B., & Mirsaidova, R. R. (2021). Chemical Therapy Method Of Breast Tumors In Dogs In Samarkand. *The American Journal of Veterinary Sciences and Wildlife Discovery*, 3(03), 15-18.
5. Yulchiyev Jasurbek Bakhodirovich, & Dilmurodov Nasriddin Bobokulovich. (2022). Treatment and Prevention of Transmissible Veneric Sarcoma in Dogs. *Eurasian Medical Research Periodical*, 7, 81–85. Retrieved from <https://geniusjournals.org/index.php/emrp/article/view/1032>
6. Юлчиев, Ж. Б., & Мирсаидова, Р. Р. (2021). THE CHANGES OF BLOOD PARAMETERS IN CHEMICAL THERAPY OF BREAST TUMORS OF DOGS. *Вестник Ветеринарии и Животноводства*, 1(2).
7. Юлчиев, Ж. Б., & Нарзиев, Б. Д. ЛЕЧЕНИЕ И РАСПРОСТРАНЕННОСТЬ ОПУХОЛЕЙ У СОБАК В ГОРОДЕ САМАРКАНД TREATMENT AND SPREADING TUMORS OF DOGS IN SAMARKAND CITY. ББК 65.2 С56, 196.
8. Krasnoslobodtsev, N., Shapiro, E., Alymova, T., & Kuharenko, N. (2020). Some etiopathogenetic features of dogs' breast tumors. In *E3S Web of Conferences* (Vol. 203, p. 01014). EDP Sciences.
9. Feliciano, M. A., Vicente, W. R. and Silva, M. A. 2012. Conventional and Doppler ultrasound for the differentiation of benign and malignant canine mammary tumours. *J. Small Anim. Pract.* 53: 332–337.
10. Tagawa, M., Kanai, E., Shimbo, G., Kano, M., & Kayanuma, H. (2016). Ultrasonographic evaluation of depth–width ratio (D/W) of benign and malignant mammary tumors in dogs. *Journal of Veterinary Medical Science*, 78(3), 521-524.
11. Вахтиёр, Н., & Жасурбек, Ү. (2021). The diagnosis and effect of breast tumors treatment in dogs. *Journal of Microbiology, Biotechnology and Food Sciences*, 2021, 475-477.
12. Нарзиев, Б. Д. (2022). ИТЛАРДА ОПЕРАЦИЯ ЖАРАЁНИДА УМУМИЙ ОҒРИҚСИЗЛАНТИРИШНИ ҚЎЛЛАШ. BARQARORLIK VA YETAKSHI TADQIQOTLAR ONLAYN ILMIY JURNALI, 2(1), 306-309.
13. Нарзиев, Б. Д., Бобоноров, О., & Расулова, Н. (2009). Самарқанд шахрида итлар орасида ўсмаларнинг тарқалиши ва уларнинг олдини олиш. “Фермер хўжалиқларини ривожлантириш истиқ-боллари” СамҚХИ, 153-154.
14. Нарзиев, Б. Д., & Юлчиев, Ж. Б. (2018). Диагностика и лечение опухолей молочной железы собак. In *Современное состояние, традиции и инновационные технологии в развитии АПК* (pp. 155-162).
15. Юлчиев, Ж. Б., & Нарзиев, Б. Д. ЛЕЧЕНИЕ И РАСПРОСТРАНЕННОСТЬ ОПУХОЛЕЙ У СОБАК В ГОРОДЕ САМАРКАНД TREATMENT AND SPREADING TUMORS OF DOGS IN SAMARKAND CITY. ББК 65.2 С56, 196.