

## Case Report

# Canine Transmissible Venereal Tumor (CTVT) in a Male Kintamani Dog: A Case Report

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**Abstract:** Tumors are the most common fatal disorders observed in animals. Canine Transmissible venereal tumor (TVT) is usually a sexually transmitted neoplasm of the external genitalia of dogs the tumor occurs naturally on the genitals of both male and female dog. In male dogs, it is located on the penis or preputium. Based on Clinical signs and cytological findings, the dog was diagnosed as a transmissible venereal tumor (TVT). The dog was treated with 0.025 mg/kg body weight of vincristine sulfate every one week and recovered fully within 4 weeks. Dog also treated with Amoxicillin with doses of 10 mg/kg body weight and multivitamin for 5 days. The response to chemotherapy with vincristine was excellent leading to complete regression of the neoplasm after 4 weeks.

**Keywords:** Cytology, dog, TVT, vincristine.

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## INTRODUCTION

Canine Transmissible Venereal Tumor (CTVT) is a disease that generally attacks the external genital organs of both male and female dogs. It has also been reported that this tumor disease can attack fox, coyote, and jackal. This disease is also known as infectious sarcoma, venereal granuloma, canine condyloma, transmissible sarcoma, and transmissible lymphosarcoma [1]. This disease is transmitted from one dog to another through sexual contact by the physical transfer of viable tumor cells [2] and can also be transmitted through sniffing or licking the affected area [3].

Canine Transmissible Venereal Tumor is usually seen in young, sexually active dogs in groups of free-roaming dogs with uncontrolled reproduction. This tumor can occur at any age and affects all dog breeds and no sex predilection [4]. These tumors generally affect dogs aged 2-5 years. In male dogs, these tumors usually attack the cranial glans penis, prepuce mucosa, and bulb glands. In female dogs, it is generally found in the caudal part of the vagina and the vulva [5].

Clinical symptoms of venereal sarcoma are usually characterized by the presence of small, from pink to red papules developing into nodules and multi-

lobe papillae like cauliflower [3]. The definitive diagnosis of TVT is generally based on clinical symptoms and cytological or histopathological. Microscopically, there are round, polyhedral or slightly oval tumor cells with indistinct cytoplasmic boundaries, multiple cytoplasmic vacuoles, and large foamy nuclei [6].

Canine Transmissible Venereal Tumor treatment can be in the form of chemotherapy, surgery, radiotherapy, and immunotherapy. The most effective treatment is chemotherapy [7]. Due to the nature of this disease that is easily contagious, of course for the owner of the animal immediately bring the animal to the veterinarian if this tumor formation is suspected. This paper presents the history, clinical symptoms, cytology, and therapy of TVT in a male Kintamani dog.

## CASE DESCRIPTION

The results of the anamnesis obtained the following information: a dog is a male Kintamani breed, aged 5 years. Dogs are kept wild, brought to the clinic with a complaint that there was a red discharge from his genitals. On physical examination, a cauliflower-like pedunculated growth was seen at the base of the penis, in addition to these signs, there is an unpleasant odor from the discharge from the penis

(Figure 1). A tentative diagnosis of this disease is carried out by cytological examination of smears method from the tumoral masses. On cytological examination, there were round cells, ovoid or polyhedral, bright cytoplasm and many vacuoles were found. The nucleus of the cell is round and nucleolus was observed. The dog was given an injection of vincristine at a dose of 0.025 mg/kg body weight intravenously every week for one month. To reduce secondary infection the dog was given the antibiotic Amoxicillin at a dose of 10 mg/kg bodyweight for 5 days. To increase the dog's appetite also given a multivitamin for 5 days. After the second injection, there was a marked reduction in the tumor. The tumor seems to have disappeared after the 4th treatment.



**Fig-1: Venereal tumor mass covered with bloody discharge in the penis on the first day before treatment**

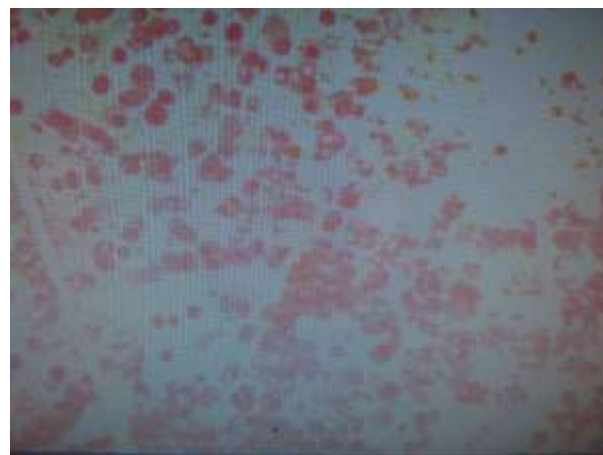
## DISCUSSION

Treatment of TVT should be aimed at reducing tumor mass and avoiding secondary infection or other complications. In general, vincristine sulfate is the drug of choice in the treatment of TVT. This case, confirms that chemotherapy with vincristine at a dose of 0.025 mg/kg body weight once a week for 4 weeks was very effective in cases of CTVT in a male Kintamani dog. The success of this treatment results is in line with previously published data that vincristine is the chemotherapy of choice in treating TVT [8-10]. The timing of regression of the tumors in these cases occurred after the fourth week, this treatment results consistent with the previous report [11]. Another report states that giving 0.025 mg/kg can regress tumor mass within 3 weeks [12]. However, the regression of these tumors was one week faster than that of mixed-breed female dogs [13]. The difference in the length of the regression is probably due to the dog's condition and the different ages.

In this case report, the diagnosis was obtained based on clinical signs and physical findings, and the diagnosis was confirmed by cytological examination of a cell by smears of tumoral masses. Canine

Transmissible Venereal Tumor is described as masses in penile of dog, bloody discharge, and cauliflower looking during physical examination. The result of the physical examination, in this case, was consistent with previous data. TVT was typical with subcutaneous masses in, bloody discharge, and cauliflower-looking tumoral masses as noticed during physical examination (Kose et).

On cytology examination, CTVT was described as a round cell tumor, uniform cells with protruding nuclei, and a large number of vacuoles (Figure 2). Canine Transmissible Venereal Tumor is homogeneous tissue masses originating from mesenchyme cells with indistinguishable boundaries. Canine Transmissible Venereal Tumor should be differentiated from mastocytomas, histiocytomas, or malignant lymphomas. Therefore a tentative diagnosis for this tumor can be used cytology examination. Cytology is a quick, simple, and slightly invasive method of diagnosis. Cytology examination is an examination that strengthens examination based on clinical symptoms and is following several previous reports [14].



**Fig-2: Hematoxylin- and eosin-stained section of the canine transmissible venereal tumor showing the large vacuolated tumor cells (×40)**

## CONCLUSION

Canine Transmissible Venereal Tumor is easily diagnosed based on clinical symptoms and cytological examination. The results show that TVT can be treated with chemotherapy using vincristine sulfate at a dose of 0.025 mg/kg body weight intravenously. Treatment with vincristine sulfate resulted in a loss of tumor mass after 4 weeks of administration. To deal with this tumor, it is necessary to examine male and female dogs before mated. By reducing the population of stray dogs can reduce the incidence of canine TVT.

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## REFERENCES

1. Dameski, P., Karabolovski, N., Dodovski, P., Risteovski, M., Avramov, A., Zdraveski, I., Pejchinovska, N., & Hristovska, T. (2018). Management of canine transmissible venereal tumor, retrospective study of five cases. *Horizons.B*, 5(July 2019). <https://doi.org/10.20544/horizons.b.05.1.18.p01>
2. Stockmann, D., Ferrari, H. F., Andrade, A. L., Lopes, R. A., Cardoso, T. C., & Luvizotto, M. C. R. (2011). Canine transmissible venereal tumors: Aspects related to programmed cell death. *Brazilian Journal of Veterinary Pathology*, 4(1), 67–75.
3. UÇAR, M. (2016). Transmissible Venereal Tumor: A Review. *Kocatepe Veterinary Journal*, 9(3), 230–235. <https://doi.org/10.5578/kvj.26524>
4. Srirakoon, N., Manesaay, P., Kasorndorkbua, C., Srisampan, S., Wongsali, C., Kunakornsawat, S., & Thayanunphat, A. (2020). Intraocular transmissible venereal tumors in dogs: A retrospective review of 21 cases. *Songklanakarini Journal of Science and Technology*, 42(3), 608–614.
5. Sreekumar, K.S., Narendran, P.V., Ajidhan, V.B.(2015). Case Study of Canine Transmissible Venereal Tumor. *EC Veterinary Science*, 2.2 (2015): 109-117.
6. Muhammad Shafiqul Islam, Shubhagata Das, Muhammad Abdul Alim , Muhammad Mohi Uddin, Muhammad Hazzaz Bin Kabir, Muhammad Tariqul Islam, Kazal Krishna Ghosh, M. M. (2014). Progressive Type of Canine Transmissible Venereal Tumor (CTVT) in a Male Stray Dog: a Case Report. *Research Journal for Veterinary Practitioners*, 2(4), 70–72. <https://doi.org/10.14737/journal.rjvp/2014/2.4.70.72>
7. Abeka, Y. T. (2019). Review on Canine Transmissible Venereal Tumor (CTVT). *Cancer Therapy & Oncology International Journal*, 14(4), 1–9. <https://doi.org/10.19080/CTOIJ.2019.14.555895>
8. Saibaba, M., Dhana Lakshmi, N., & Phaneendra, M. S. S. V. (2015). Successful Chemotherapeutic Management of TVT in Dogs-Report of 24 Cases. *IJISSET-International Journal of Innovative Science, Engineering & Technology*, 2(8), 370–374. [www.ijiset.com](http://www.ijiset.com)
9. Pinczowski, P., Gimeno, M., Aceña, C., Villegas, A., De Martino, A., & Luján, L. (2015). Brain metastasis in a case of canine transmissible venereal tumor after a supposed successful treatment with vincristine sulfate. *Acta Veterinaria*, 65(1), 137–142. <https://doi.org/10.1515/acve-2015-0011>
10. Hiblu, M. A., Khabuli, N. M., & Gaja, A. O. (2019). Canine transmissible venereal tumor: First report of three clinical cases from tripoli, Libya. *Open Veterinary Journal*, 9(2), 103–105. <https://doi.org/10.4314/ovj.v9i2.1>
11. Sudjaidee, P., Theewasutrakul, P., & Techarungchaikul, S. (2012). *Treatment of Canine Transmissible Venereal Tumor Using*. 42(1), 117–122.
12. Tahira, S., Shoukat, S., Tahira, H.S. (2013). A Transmissible Venereal Tumor in a 2- Year Bitch: A Case Report. 47(10), 788–789.
13. Raghunath, M., Chowdhary, R., Sagar, P. V., & Kumar, P. R. (2015). Genital and extra genital TVT in a bitch- a case report. *Scholars Journal of Agriculture and Veterinary Sciences*, 2(1B), 61–62.
14. Rezaei, M., Azizi, S., Shahheidaripour, S., & Rostami, S. (2016). Primary oral and nasal transmissible venereal tumor in a mix-breed dog. *Asian Pacific Journal of Tropical Biomedicine*, 6(5), 443–445. <https://doi.org/10.1016/j.apjtb.2016.03.006>
15. Sreekumar KS, PV Narendran. (1984). Veterinary Science. *Journal of Zoology*, 204(1), 41–43. <https://doi.org/10.1111/j.1469-7998.1984.tb02358.x>

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