



Short Communication: Canine transmissible venereal tumor in dogs

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Abstract

Canine transmissible venereal tumor also known as transmissible venereal tumor, contagious venereal tumor, transmissible lymphosarcoma, transmissible venereal sarcoma and infectious granuloma. This tumor commonly affects the external genitalia in dogs of both sexes but More incidences in females are occurring as compared to males. The clinical signs of the genital system include serosanguineous vaginal discharge, cutaneous discharge, protrusion of neoplastic lesions, intermittent or continuous skin lesions, swelling of the genital area, excessive licking of the genital region and pain. The tumor initially is small and its color varies from pink to red, subsequently transforming into a large, ulcerated and infected mass. Over time, the volume of the tumor increases and the lesions develop into fragile, hyperemic, bleeding, multilobular and cauliflower resembling masses. A Sarabi bitch, 18 months old, was referred to the hospital of faculty of Shahid Chamran University in Ahvaz, suffering from serosanguineous vaginal discharge for the past three months. During examinations, the size of the vagina was normal and the discharge was observed to be red in color. CBC and biochemistry tests indicated a decrease in red blood cells and hematocrit level, along with an increase in fibrinogen. In the vaginal cytology sample, red blood cells, large and small intermediate cells and TVT round cells were observed. After multiple assessments, a diagnosis of transmissible venereal tumor (TVT) was confirmed. However, due to the owner's lack of follow up, treatment was not completed.

Keywords: Bitch, Nodular fleshy masses, Transmissible venereal tumor, Round cells

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Introduction

Canine transmissible venereal tumor also known as transmissible venereal tumor, contagious venereal tumor, transmissible lymphosarcoma, transmissible venereal sarcoma and infectious granuloma (Shiju Simon *et al.*, 2016). In dogs, the most common genital tumor is the transmissible venereal tumor (TVT) (Jones and Joshua, 1982). This type of tumor is found more frequently in stray dogs and those that are sexually active in tropical and subtropical regions (Eze *et al.*, 2007). This tumor commonly affects the external genitalia in dogs of both sexes but More incidences in females are occurring as compared to males (Martins *et al.*, 2005). The tumor spreads to the genital tract during mating and sometimes to the nose, along with the dissemination of various tumor cells. It can also occasionally affect the mouth and skin (Johnston *et al.*, 2001). The causative cause is still unknown, although the changes in the tumor result in tumor-related inhibitory proteins (Martins *et al.*, 2005). Younger animals (under 5 years) are more commonly affected, but no specific breed is predisposed. Its growth is rapid and clinical signs appear shortly after the incubation period (typically 5-6 weeks, but in some cases significantly less). The clinical signs of the genital system include serosanguineous vaginal discharge, cutaneous discharge, protrusion of neoplastic lesions, intermittent or continuous skin lesions, swelling of the genital area, excessive licking of the genital region and pain

(Nak *et al.*, 2005). Foul-smelling and bloody discharge from the penile sheath may appear and when the penis is retracted, nodular, grayish fleshy masses are observed. The tumor initially is small and its color varies from pink to red, subsequently transforming into a large, ulcerated and infected mass. Over time, the volume of the tumor increases and the lesions develop into fragile, hyperemic, bleeding, multilobular and cauliflower resembling masses (MacEwen, 2001). The tumor invades locally in approximately 50% of affected animals, with minimal metastasis to regional lymph nodes. Metastatic spread to visceral areas and nervous tissues has been rarely reported. The incidence of metastases correlates with the animal's sex, with metastases occurring more frequently in male dogs (15.6%) than in female dogs (1.8%) (Boscós *et al.*, 2004). One of the consequences of tumor malignancy is a gradual weight loss in the animal, which may lead to severe emaciation (Demoor-Goldschmidt and Raynard, 2009). In some cases, treatment has been possible through the removal of the penis and its sheath in males, but the recovery rate is relatively high. The use of chemotherapy drugs such as vincristine, radiotherapy (Wittrow *et al.*, 1986) and laser therapy (Kangasniemi *et al.*, 2004) has been reported for its treatment.

Clinical history

On May 29, 2024, a Sarabi breed bitch, 18 months old, was referred to the hospital of faculty of shahid chamran university in Ahvaz. According to the

provided history, the dog had a successful delivery 6 months prior to the visit and had been suffering serosanguineous discharge from the vaginal area for the past 3 months. All vaccinations had been completed. Finally, blood was drawn from the animal's cephalic vein and sent to the laboratory for a detailed examination of blood parameters and serum analysis.

Laboratory findings

In the examinations conducted, the size of the vagina was normal and both the clitoris and the clitoral groove were also normal. Vaginal discharge was observed

to be red, and nodular and cauliflower-like lesions were clearly seen (Fig. 1). The results of the CBC test indicated a decrease in red blood cells count and hematocrit levels; in the biochemical tests, calcium, phosphorus, and glucose levels were normal, while fibrinogen was reported to be at a high level. For further examination, a vaginal smear was taken and sent to the laboratory. The cytology sample was stained with Giemsa, revealing red blood cells, large and small intermediate cells, and round TVT cells (Fig. 2).



Figure 1: Nodular and cauliflower lesions in the dog's vagina.

Results

During the examinations conducted, a definitive diagnosis of transmissible venereal tumor (CTVT) was confirmed. The owner of the animal didn't attend

several sessions for chemotherapy due to the distance and the treatment process remained incomplete.

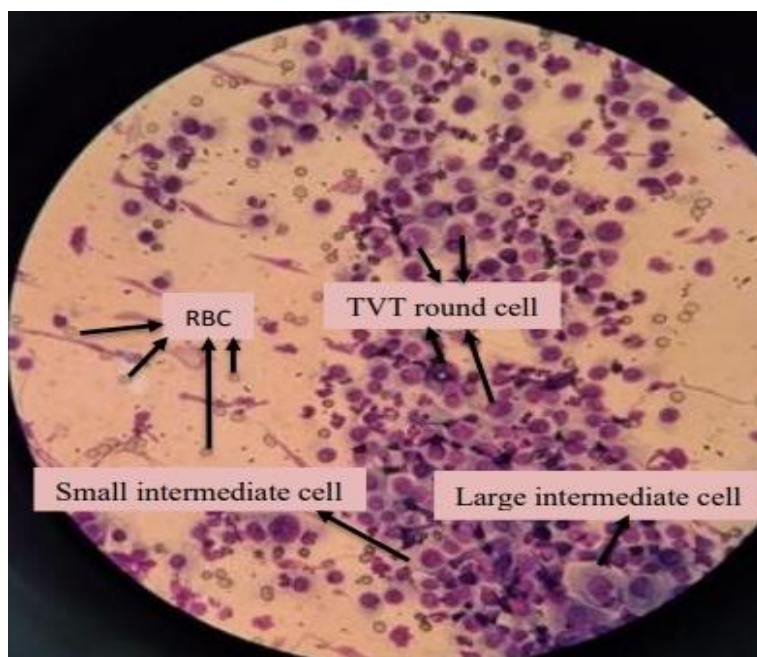


Figure 2: Vaginal cytology sample (×400).

References

- Boscos, C.M. and Ververidis, H.N., 2004.** Canine TVT-Clinical Findings, Diagnosis and Treatment. Clinic of Obstetrics & A.I., Faculty of Veterinary Medicine, Aristotle University of Thessaloniki, Greece.
- Demoor-Goldschmidt, C. and Raynard, B., 2009.** How can we integrate nutritional support in medical oncology? *Bulletin du Cancer*, 96, 665- 675.
- Eze, C., Anyanwu, H., Kene, R., 2007.** Review of canine transmissible venereal tumor (TVT) in dogs. *The Nigerian Veterinary Journal*, 28, 54-70. 28: 54-70. DOI:10.4314/nvj.v28i1.3544
- Johnston, S.D., Root Kustritz, M.V., Olson, P.N.S., 2001.** Canine and Feline Theriogenology. Philadelphia: WB Saunders. Philadelphia, 193-205.
- Jones, D.E. and Joshua J.O., 1982.** Reproductive Clinical Problems in the Dog. Bristol: John Wright.
- Kangasniemi, M., McNichols, R.J., Bankson, J.A., Carruth J.A. 2004.** Lasers Surgery Medicine; 35:41. DOI: 10.1002/lsm.20043
- Mac-Ewen, E. 2001.** Transmissible venereal tumor. In: Withrow S and MacEwen E (eds.), *Small Animal Clinical Oncology*. 3rd Edition, Saunders, Philadelphia pp. 651-656.
- Martins, M.I., Souza, F.F., de Gobello, C., Ferreira, F. 2005.** The canine transmissible venereal tumor: etiology, pathology, diagnosis and treatment. In: Concannon P.W, ed. *Recent Advances in Small Animal Reproduction*.
- Nak, D., Nak, Y., Cangul, I., Tuna, B., 2005.** A clinic pathological study on the effect of vincristine on transmissible venereal tumor in the dogs. *J Vet Med A Physiol Pathol Clin Med* 52(7): 366-70. DOI: 10.1111/j. 1439-0442.2005.00745.x
- Shiju Simon, M., Chhavi Gupta, P. Sankar, R. Ramprabhu, N. Pazhanivel and S. Prathaban 2016.** Cutaneous Transmissible Venereal Tumor in a Dog and its Management. *Indian Vet. Journal.*, 93 (07): 77 – 79.
- Wittrow, S.J., Susaneck, S.J., In: Morrow, D.A., ed. 1986.** *Current Therapy in Theriogenology*. 2nd ed. Philadelphia: WB Saunders; 521–528.