

Transmissible Venereal Tumour in Dogs

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<https://doi.org/10.5281/zenodo.8170761>

Synonyms

Infectious sarcoma, Venereal granuloma, Transmissible lymphosarcoma, **Stickler tumour**. It is the benign reticuloendothelial tumour of the dog that mainly affects the external genitalia and occasionally the internal genitalia.

Sites

In bitches, the tumour may be located in the vagina and vulva. In male, the tumour is seen in the penis and prepuce. Other sites of stickler tumour buccal cavity, nasal cavity, around the eyes and skin. The tumour causes reduction in the chromosome number in tumour cells. It varies from 55 to 64, but normal chromosome number in bitches is 78.



TVT in Buccal cavity



TVT in Skin



TVT in Eyes

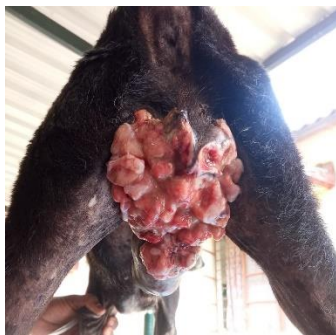
Etiology / Transmission

It is transmitted by **coitus**. Allogenic cellular transplants and abnormal cells of the neoplasm are the vectors of transmission. Exfoliative and transplantation of neoplastic cells due to physical contact

(during mating or licking the affected genitalia) is responsible to spread into genital, oral or nasal mucosa. Sexual acts are the most frequent means of transmission of TVT; other means exist, such as the habit of licking and sniffing other dogs (Strakova & Murchison, 2014). Growth of tumour occurs 15-60 days after implantation. Metastasis may occur in less than 5-17% of cases. **Female dogs are more susceptible to TVT than male dogs.**

Clinical Signs

- Dripping of blood from vulva. Protrusion of reddish mass through vulva. Initially, the tumour is pedunculated and located inside the vagina.
- Subsequently, it becomes **cauliflower shape** and protrude through vulva.
- In males, the tumour masses develop on the glans penis, preputial mucosa or the bulbous glandis, often protruding from the prepuce leading to phimosis.
- It readily **bleeds on palpation**. Serosanguinous discharge is noticed in the later stage.
- Nasal or ocular TVT may cause signs like sneezing, epistaxis, epiphora, facial or oradeformation and regional lymphnode enlargement.

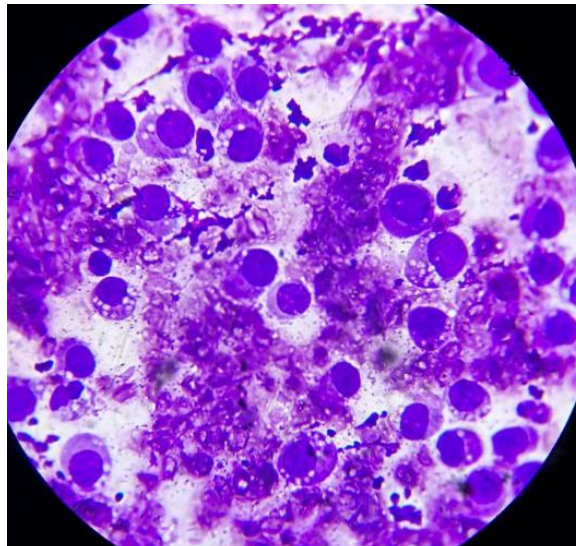


TVT mass in female reproductive tract TVT mass in male reproductive tract

Diagnosis:

- On physical examination small pink to red, 3 mm diameter nodules can be observed 2-3 weeks after transplantation.
- Initially, lesions are pedunculated, then multiple nodules fuse together forming larger, red, hemorrhagic cauliflower like friable masses. The masses can be 5-7 cm in diameter which then progress deeper into the mucosa as multilobular subcutaneous lesions with diameter that can exceed 10-15 cms.
- Cytological findings of TVT in exfoliated cells obtained by swabs, fine needle aspirations or imprints of the tumours are diagnostic.





Round shaped cells containing eccentrically placed nucleus with cytoplasmic vacuoles indicative of TVT cells

Treatment

- Drug of choice is “**Vincristine sulphate**” It is available as 1 mL vial. Each mL contains 1 mg vincristine sulphate. Dose: 0.025mg/Kg B.wt. **strict IV**. Extravasation while injecting drug causes severe **phlebitis**. Every week once drug should be given until cure. It reduces the total leucocytes count. So when WBC below 4000/m², postpone the therapy.
- Vincristine sulfate is the first-choice drug for the antineoplastic chemotherapy of TVTs, which can be administered at a dose of 0.025 mg/kg up to 1 mg/kg or 0.5 mg/m² IV, weekly, for 3–6 weeks, with an interval of 7 days between the doses (Fossum, 2005)
- **Cyclophosphamide** – 10mg/Kg B.wt – orally for 10 days. Combination of Cyclophosphamide (5mg/Kg) and Prednisolone acetate (3mg/Kg) for 5 days.
- If vincristine fails due to resistance, **Doxorubicin** is used (Nak et al., 2005) Dose: 30 mg/m² surface area of body (app. 20 mg/Kg B.wt). Two injections are sufficient. Second injection should be given after 21 days. Other therapy includes Electro cauterization, Cryocauterization and Radiation therapy-1000 rads every week for 2-3 days.

Reference

Fossum, T. W. (2015). *Cirurgia de pequenos animais*. Elsevier Brasil.

Nak D, Nak Y, Cangul IT, Tuna B. A Clinico-pathological study on the effect of vincristine on transmissible venereal tumour in dogs. *J Vet Med A Physiol Pathol Clin Med*. 2005 Sep;52(7):366-70. doi: 10.1111/j.1439-0442.2005.00743. x. PMID: 16109105.

Strakova A., Murchison E. P. The changing global distribution and prevalence of canine transmissible venereal tumour. *BMC Veterinary Research*. 2014;10:168. doi: 10.1186/s12917-014-0168-9.

