

## GENERALISED OCULAR AND CUTANEOUS MANIFESTATION OF TRANSMISSIBLE VENEREAL TUMOR IN DOGS– A REPORT OF THREE CASES

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### SUMMARY

The present study was carried out in 03 dogs of different breeds presented to Veterinary Clinical Complex, Small Animal Surgery Unit, with the history of hard mass on the left eye, vagina and subcutaneous region for past 4 months. Ophthalmic examination revealed a tumor originating from palpebral and bulbar conjunctiva covering the entire left eyeball. The diagnosis was arrived based on cytological evaluation to be transmissible venereal tumor. The dog was medically managed with Vincristine sulfate @ 0.025mg/kg intravenously for first 4 weeks and surgical removal was done after failure of chemotherapy. No recurrence was noticed after one year of treatment.

**Keywords:** Dog, Eye, Transmissible venereal tumor

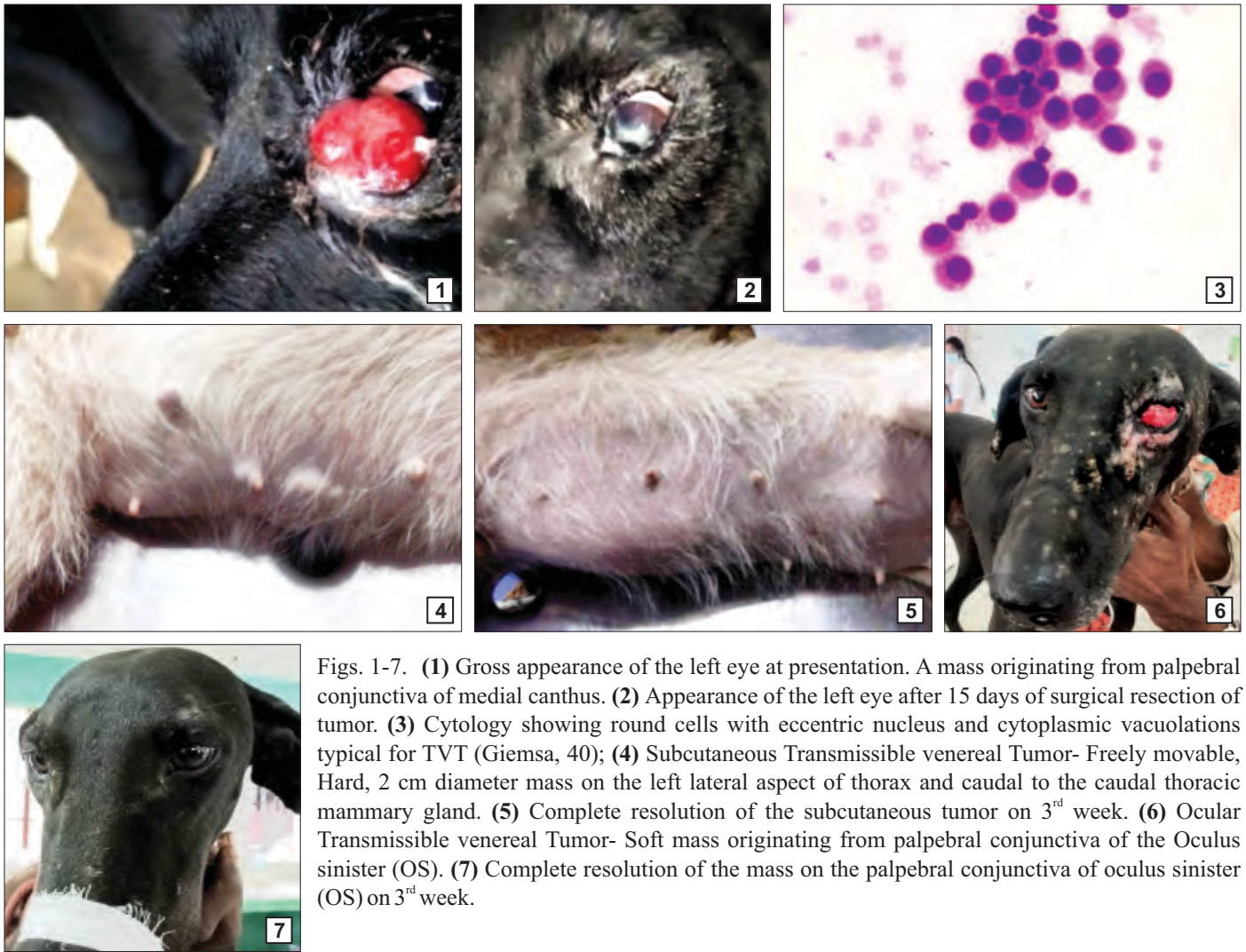
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Transmissible venereal tumor (TVT) is a benign reticuloendothelial tumor of the dog that mainly affects the external genitalia and occasionally the internal genitalia (Sridevi, 2015). The tumor has also been found in extra genital areas with or without genital involvement. Clinical signs include cauliflower like growth with hemorrhagic discharge and may vary according to the localization of the tumor (Sridevi, 2015). TVT generally develops in enabling transposition of the tissue to a healthy the external genitalia and less commonly, the tumor may also be transmitted to extra-genital sites like nasal or oral cavities, cavities, skin and conjunctiva and the rectum by sniffing or licking (Singh *et al.*, 2019). Metastases may occur to skin, eyes, subcutaneous tissue, brain, lungs, liver and spleen (Ferreira *et al.*, 2000). Transmission occurs by inoculation of neoplastic cells into the mucosa or skin (Kroger *et al.*, 1991). Definitive diagnosis is based on the cytological evaluation of impression smear or fine needle aspirates which reveals prominent nucleus and scanty cytoplasm with multiple vacuolations (Sridevi, 2015). This article describes about the clinical case of dogs with ocular and cutaneous TVT that was both medically and surgically managed.

A 6-year-old female Labrador, 3-year-old female Terrier and 2-year-old male Chippiparai dogs were presented to Veterinary Clinical Complex, Veterinary College and Research Institute, Namakkal with the history of hard mass on the left eye (Fig. 1), subcutaneous region (Fig. 4) and palpebral conjunctiva of left eye (Fig. 6), for past 4 months. The owner reported that the mass was initially smaller in size and progression was noticed during the course. Clinical examination revealed a cauliflower

like growth originating from the palpebral conjunctiva at the medial canthus of the left eye, almost covering the entire eyeball (Figs. 1 & 6). Impression smear revealed large eccentric nucleus with multiple cytoplasmic vacuolations (Fig. 3). These findings confirmed the mass as TVT. Chest radiography did not show any metastatic lesions. The hematobiochemical values were within the normal range except neutrophilia. The dog was medically managed with Vincristine sulfate weekly once at a dose of 0.025 mg/kg intravenously for 4 weeks. There was no reduction in the size of the mass after chemotherapy. The ocular tumor in Labrador was surgically excised under general anesthesia. No recurrence was noticed after surgical excision (Fig. 2). TVT is mostly reported in sexually mature animals because transmission is usually via coitus (Sridevi, 2015). By licking and contact with affected genitalia transmission has been reported (Mozos *et al.*, 1996). Either sex is equally susceptible and metastases have been noticed in less than 5% of cases (Rogers *et al.*, 1998). Epiphora, facial deformation, swelling of regional lymph nodes could be noticed in case of ocular TVT (Sridevi, 2015). It is in accordance with the present case which reports epiphora and the mass was evident with serosanguinous discharge. Treatment includes chemotherapy, radiotherapy, electro cauterization, cryo-cauterization and surgery. Chemotherapy with Vincristine sulfate at a dose of 0.025 mg/kg IV in equal quantity of saline, once a week is a treatment of choice. Similar to our results (Kumar *et al.*, 2010) also reported the regression of TVT by administration of vincristine sulfate. Chemotherapy was followed for 4 weeks; complete remission was noticed in Terrier and Chippiparai dog (Figs. 5 & 7). Temporary remission was noticed in Labrador, recurrence was noticed after 4 weeks,

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Figs. 1-7. (1) Gross appearance of the left eye at presentation. A mass originating from palpebral conjunctiva of medial canthus. (2) Appearance of the left eye after 15 days of surgical resection of tumor. (3) Cytology showing round cells with eccentric nucleus and cytoplasmic vacuolations typical for TVT (Giemsa, 40); (4) Subcutaneous Transmissible venereal Tumor- Freely movable, Hard, 2 cm diameter mass on the left lateral aspect of thorax and caudal to the caudal thoracic mammary gland. (5) Complete resolution of the subcutaneous tumor on 3<sup>rd</sup> week. (6) Ocular Transmissible venereal Tumor- Soft mass originating from palpebral conjunctiva of the Oculus sinister (OS). (7) Complete resolution of the mass on the palpebral conjunctiva of oculus sinister (OS) on 3<sup>rd</sup> week.

so surgical excision of the tumor was carried out. Mild corneal opacity was noticed post operatively which may be due to irritation by the tumor mass (Fig. 2). Side effects of Vincristine administration include myelosuppression causing leucopenia and gastrointestinal effects which causes vomiting (Sridevi, 2015). Extravasation of the drug during IV administration is a common complication that causes local tissue reactions (Tella *et al.*, 2004). The presented cases did not have such side effects. This paper is to report the successful recovery of recurring TVT in dogs. The combination of chemotherapy and surgical excision has resulted in complete elimination of the tumor.

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