International Journal of Chemical Studies

P-ISSN: 2349–8528
E-ISSN: 2321–4902
IJCS 2017; 5(3): 593-595

Received: 27-03-2017
Accepted: 28-04-2017

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# Clinico-pathological study on metastatic form of canine Transmissible Veneral Tumour (TVT) and its therapeutic management

**Syed Abdul Arif, Nilotpal Das, Sushanta Goswami, Manjyoti Bhuyan, Gauranga Mahato, Mamta Pathak and Abhijit Das**

**Abstract**
A two year old, male, non-descript dog was presented with a complaint of growth over the various sites of body and dripping of blood from the penis. Clinical examination revealed multilobulated mass over the glans penis. The tumour mass had metastasized to the regional lymph node, rectum, subcutaneous tissue and inner eyelid. Based on cytological and histopathological examination it was confirmed as Transmissible Veneral Tumour (TVT). TVT is a contagious neoplasm of the external genitalia of dogs which is transmitted during copulation, licking, sniffing, and physical contact. Metastatic form of the disease is very rare in occurrence. The case was treated with Vincristine sulphate @ 0.05 mg/kg/b.wt. intravenously for 4 occasion in tapering manner, which was followed by recovery of the dog without any complication.

**Keywords:** Transmissible Veneral Tumour (TVT), Metastatic, dog, Vincristine

## Introduction
Transmissible Veneral Tumour is an infectious neoplastic condition primarily on the genital organs in canine (Nak *et al*., 2005) [6]. Naturally occurring TVT have no predilection with breed or sex of the animal (Park *et al*., 2006) [7]. TVT is usually transmitted to genital organs during mating, licking, sniffing and also by the physical transfer of viable tumour cells by direct contact with injured skin and/or mucous tissue (Kumar *et al*., 2014) [4]. Gurel *et al*., (2002) [3] described the disease as solitary or multiple cauliflower-like, pedunculated, nodular or multilobulated in appearance ranges from small nodule to a large mass which is often ulcerated, inflamed and bleeds easily. Although TVT may develop at extra- genital sites however metastasis is reported to occur in less than 5% of the cases (Das and Das., 2000) [1]. The present study describes a rare case of metastatic form of TVT and its therapeutic management.

## Case History and Observations
A two year old, male, non-descript dog was reported in Teaching Veterinary Clinical Complex (T.V.C.C.) College of veterinary Science, Assam Agricultural University, Khanapara, Guwahati-22 with the history of multiple growth over various sites of the body and bloody discharge from the penis. Clinical examination revealed lobulated and irregular penduculated mass over glans penis which was slightly ulcerated (Fig.1). On thorough examination the nodular lesions were also recorded in the left inner eyelid (Fig.2), regional lymph node (Fig.3), and subcutaneous tissue (Fig.4) and rectum (Fig.5).
Cytological smear prepared from penial tissue, lymph node and subcutaneous growth were stained with Giemsa showed discrete cells with moderate to high features of malignancy like anisocytosis, anisokaryosis, pleomorphism, coarse aggregated chromatin, multiple basophilic nuclei and light basophilic to colourless cytoplasm with clear and distinct vacuoles. Urinalysis did not reveal any pathological process, except presence of few RBCs and epithelial cells. Histologic section from penile growth revealed diffuse sheets of tumour cells separated by fibrous stroma. Neoplastic cells were arranged in pseudo alveolar pattern while some cells were seen with round hyperchromatic nucleus with stippled and lacy chromatin. Areas of necrosis and haemorrhage were seen at the periphery of the nodular lesion. Pleomorphic nuclei and mitotic figures were evident. Occasional neutrophils, bi-nucleate cells, plasma cells and macrophages were also observed.

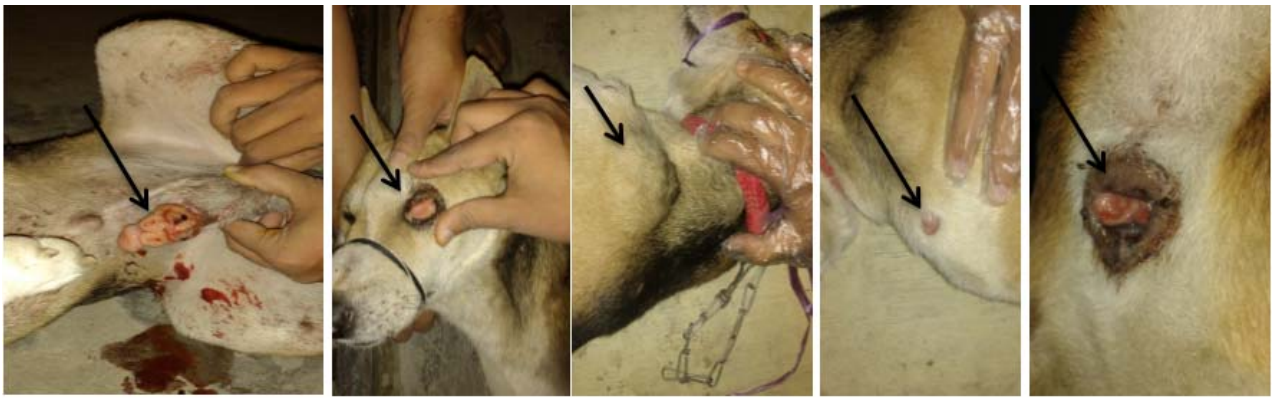

**Fig 1** **Fig 2** **Fig 3** **Fig 4** **Fig 5**

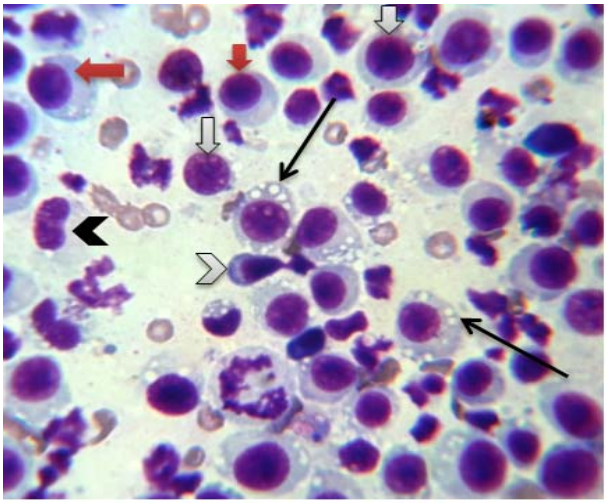

**Fig A:** Impression smear from penis (TVT) showing a typical neoplastic progressing growth phase: Pleomorphic round cells with cytoplasmic vacolues (*black arrow*), Lymphocytic cell (*White arrow*), Plasmacytic cell (red arrow), Mitotic figure (*black arrow head*), Fibroblast (*white arrow head*). Giemsa stain X 100

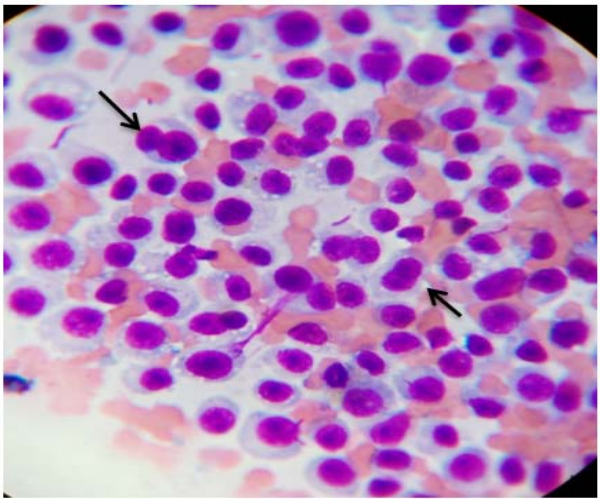

**Fig B:** Fine needle aspiration from Subcutaneous growth shows abundant round to polyhedral tumour cells with punctate vacuoles in the cytoplasm: Binucleated cells (*black arrow*). Giemsa stain X 100

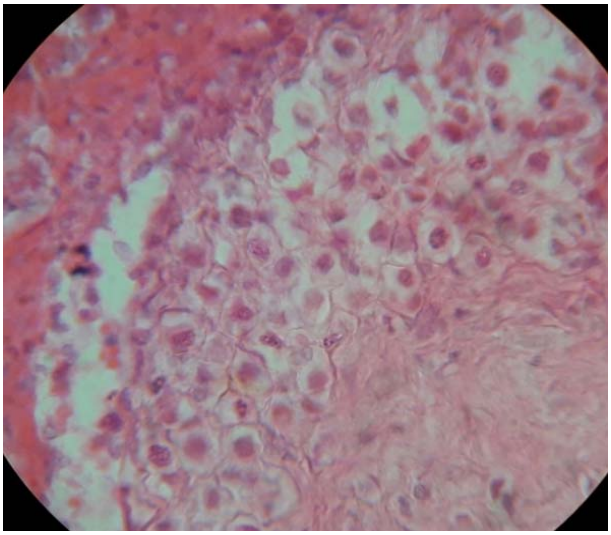

**Fig C:** Sheets of neoplastic cells in the nodule with necrotic area at the periphery. (H&E X 40)

## Treatment and Discussion

The chemotherapy was initiated with Vincristin sulphate @ 0.05mg/ kg/ b.wt. intravenously in tapering manner for 4 occasions at weekly interval for regression of the neoplastic growth and also to prevent recurrence. Parenteral administration of acid blocker and Vitamin C was given as supportive medication. Progress of the tumour regression was recorded following each injection. After 4$^{th}$ injection, nodular lesions were totally reduced. The treatment leads to complete regression of genital and extra genital neoplastic growth without any complicacy (Fig.6, 7, 8, and 9). Impression smear prepared on 28$^{th}$ day of post treatment shows regressing tumour cells and areas with populating neutrophils. Similar findings were also reported by Marcos *et al.,* (2006) [5] and Gonzalez *et al.,* (2000) [2].

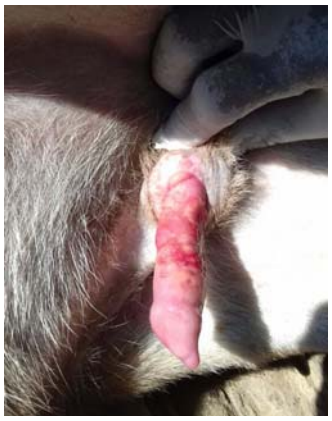

**Fig 6**

**Fig 7**

**Fig 8**

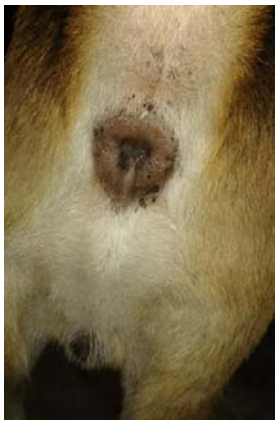

**Fig 9**

## References


1. Das U, Das AK. Review of canine transmissible venereal sarcoma. Veterinary Research Communications. 2000; 24(8):545-556.
2. Gonzalez CM, Griffey SM, Naydan DK. Canine transmissible venereal tumour: a morphological and immunohistochemical study of 11 tumours in growth phase and during regression after chemotherapy. J Comp Pathol. 2000; 122:241-248.
3. Gurel A, Kuscu B, Gulanber EG, Arun SS. Transmissible Venereal Tumors Detected in the Extragenital Organs of Dogs. Israel J Vet. Med. 2002; 57:97.
4. Kumar V, Hemalatha S, Balachandran C, Jayaprakash R. An unsual case of primary subcutaneous veneral granuloma (TVT) in a german shepherd and its therapeutic management. Indian vet. J. 2014; 91(6):84-86.
5. Marcos R, Santos M, Marrinhas C, Rocha E. Cutaneous Transmissible Venereal Tumor without Genital Involvement in a Prepubertal Female Dog. Vet. Clin. Pathol. 2006; 35:106.
6. Nak D, Nak Y, Cangul TI, Tuna B. A Clinico-pathological Study on the Effect of Vincristine on Transmissible Venereal Tumour in Dogs. J Vet. Med. 2005; (52):366-370.
7. Park MS, Kim Y, Kang MS, Oh SY, Cho DY, Shin NS *et al*. Disseminated transmissible venereal tumor in a dog. J Vet. Diagn Invest. 2006; 18:130-133.