

## UNUSUAL CASE OF TRANSMISSIBLE VENERAL TUMOR IN ADVANCED GESTATION IN FEMALE POMERANIAN DOG: A CASE REPORT

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### SUMMARY

A female Pomeranian dog aged 2 years presented to department of Veterinary Gynaecology and Obstetrics, Veterinary College, Hebbal, Bengaluru for pregnancy diagnosis with history of crossed two months back and with growth around vulvar lips since 5 days. On clinical examination, all physiological parameters were within normal range, abdomen was distended and cauliflower-like growth was noticed around vulvar lips. Cytology confirmed the presence of transmissible venereal tumor (TVT). Transabdominal ultrasonography revealed presence of multiple viable intrauterine fetuses. Animal had given first dose of vincristine @ 0.025 mg/kg body weight total dose. After a week pet was presented for followup with history of delivered five live healthy puppies normally and there was considerable reduction in the size of cauliflower-like growth. Subsequently, two doses of vincristine were given and animal was completely recovered. This case report gives the successful management of TVT using vincristine in advanced gestation.

**Keywords:** Advanced gestation, Female dog, TVT, Vincristine sulphate

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The term “canine transmissible sarcoma” refers to another term for the naturally occurring contagious tumour in dogs, which is commonly identified as a cauliflower-like, pedunculated, nodular, papillary growth that is most commonly found in the vestibule (95.6% of cases) and less frequently in the vagina (44.5%) or, in females, invading the vulvar lips (18.6%) (Ayala *et al.*, 2017). Chemotherapy is the most popular and successful treatment for CTVT and intravenous (IV) vincristine given once weekly for about three weeks at a dose of 0.025 mg/kg has shown promising results (Amber *et al.*, 1990). Pregnancy-related adverse effects of chemotherapy are linked to a higher incidence of teratogenesis and abortions (Ayala *et al.*, 2017). Nonetheless, many of human case reports have demonstrated the comparatively safe application of these agents during advanced gestation (Wiebe and Sipila, 1994).

A two years old female Pomeranian dog weighing 10.6 kg was brought to department of Veterinary Gynaecology and Obstetrics, Veterinary College, Hebbal, Bengaluru for pregnancy diagnosis with the history of mating two month back and with complaint of growth around vulvar lips since 5 days. On clinical examination, animal was active, all physiological parameters were within normal range. The abdomen was found to be distended and on abdominal palpation fetal structures were palpable. On per vaginal examination cauliflower-like growth was palpable around clitoris and vulvar lips (Fig. 1). Impression smear of nodular growth was taken and

subjected for cytology. Giemsa's stain revealed multiple cytoplasmic vacuolated cells which confirm the presence of CTVT (Fig. 2). Multiple viable fetuses with mean head diameter  $54 \pm 2$  days and fetal heart rate  $240 \pm 2$  beats per minute were detected by transabdominal ultrasonography (Fig. 3). First dose of vincristine @ 0.025 mg/kg body weight intravenously was administered and followed by two more doses at weekly interval alongwith supportive treatment (Singh *et al.*, 2019). Mother delivered live and healthy puppies after initial treatment of vincristine and animal recovered completely with no palpable growth after three doses (Fig. 4).

CTVT is a commonly occurring neoplasm in dogs living in tropical and subtropical areas, affecting mostly breeding-age dogs (Ortega *et al.*, 2003) and shows a good response to vincristine based chemotherapeutic treatment (Ozalp *et al.*, 2012). Vinca alkaloids have very poor penetration through the blood-brain barrier and may not be able to cross some barriers, such as the blood-placental barrier, due to their high protein binding (>99%) and even at non-cytotoxic concentrations, the foetus can only be barely impacted by the alkaloids (Dc, 1989). If the condition of TVT is very severe during any stage of pregnancy, chemotherapy should become the first choice of treatment. Effect of vincristine sulphate on developing fetus in canines may not cause any detrimental effect because duration of pregnancy in dogs is two months. Chemotherapy with cytotoxic anticancer medications during the first trimester might result in congenital

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Fig. 1 to 4. (1) Before treatment; (2) Impression smear of vulvar lips showing presence multiple cytoplasmic vacuolated cells indicative of TVT; (3) Ultrasonographic picture reveals presence of live fetus; (4) After Treatment

abnormalities in about 20% of instances; therefore, it should be avoided (Azim *et al.*, 2010). However, Miyamoto *et al.* (2016) has reported that if the mother and foetalsafety and long-term effects are sufficiently taken into account and if chemotherapy is found to be necessary, chemotherapy can be given from second trimester onwards.

It is important to note that there is limited information about the unusual combination of advanced pregnancy and transmissible venereal tumor in female dogs and can be managed by using vincristine sulphate. However, further studies required to record the effect of vincristine during different stages of pregnancy in canines. Since there was severe bleeding from the TVT lesions and chances of attraction of flies which further led to formation of maggot wound and hence treatment was initiated immediately with vincristine sulphate by following all possible precautions.

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