

TOXIC EFFECTS OF VINCRISTINE THERAPY AND ITS MANAGEMENT IN BITCH

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Canine transmissible venereal tumor, an important contagious neoplasm commonly attacks the reproductive tract with 1.24% (Khan *et al.*, 2009 and Srivastava *et al.*, 2009²) prevalence in pets. It is classified into two groups (Das and Das, 2000). Genital TVT is transmitted via natural mating while extra genital TVT is occurred by social contact, like sniffing or licking (Otomo *et al.*, 1991). The clinical presentations for TVT are visible cauliflower-like mass in genital area or on skin surface with the presence of bloody discharge, ocular or nasal deformation from tumor invasion (Mello Martins *et al.*, 2005). The masses can be from 5 -7 cms to 10 - 15 cms. which bleed easily and sometime ulcerate and become contaminated (Aprea *et al.*, 1994). In bitches the tumors can be localized in the vestibule and/or caudal vagina, protruding from the vulva with considerable hemorrhagic vulvar discharge (Srivastava *et al.*, 2013). Surgery has been used extensively for the treatment of small, localized TVTs, although the recurrence rate varies from 12–68% (Das and Das, 2000) to 50 - 68% (Rogers, 1997). Vincristine is the most frequently used drug [Mello Martins *et al.*, 2005] for chemotherapy. It acts by binding to tubulin dimer which is necessary for mitosis of spindle fibers, contributing to cellular division arrested in metaphase stage (Coppoc, 2009). The involution of the lesions is gradual with complete remission usually takes 4 to 6 injections (Boscos and

Ververidis, 2004), and resistance implied if the regression is not achieved after the sixth injection (Said *et al.*, 2009). Present case report documenting abdominal colic and constipation as major toxic effect of vincristine therapy along with its successful medical management.

History and Clinical Examination

A 10 years old female Labrador presented to canine out door, Department of Clinical Veterinary Medicine with the history of surgical followed by chemotherapeutic intervention for venereal tumor. Bitch has abdominal colic, vomiting, inappetence and constipation as chief clinical signs. History revealed surgical removal of venereal tumor followed by 4 injection of vincristine @ 0.025 mg/kg body weight intravenously at weekly interval for a period of 4 weeks. After 5 days of forth injection bitch develop the presenting complaints. Clinical examination showed restlessness, pale mucous membrane, approximately 7% dehydration [based on physical parameters of hydration], tachycardia (135/min) and increased capillary refill time (4 sec). Hematological values showed mild leucopenia (9800/ μ l), neutropenia (56%), lymphocytosis (40%) and thrombocytopenia (1.5×10^6 /cmm), while urinalysis was unremarkable. Radiography (fig-1) and ultrasonography revealed constipation, while electrocardiography showed presence of slight hypokalemia.

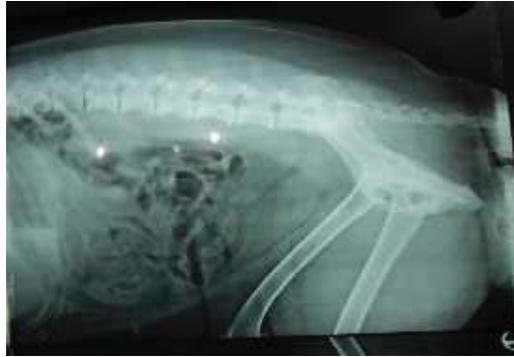


Figure 1. Rradiograph showing severe constipation

Discussion

Treatment was initiated with intravenous fluid therapy with 5 % dextrose normal saline and Ringer lactate 1 litre each, Inj. of Dicyclomine, B-complex and Syp. Cremaffin 15 ml. bid, after two days of therapy no clinical improvement was observed, the bitch was still suffering from severe abdominal pain, also no defecation was observed by owner. This time soap water enema was tried and some pellet like hard fecal masses were seen in defecated material after enema. Again the treatment was tried with inj. of Drotaverine and Mefnamic acid along with Syp. Lactulose 15 ml, po, bid, after 3 days of therapy, bitches passes the stool and start taking liquid feed but still pain was present but less frequent and reduced severity. The owner was advised to continue the medication for abdominal colic by oral route i.e. Tab of Drotaverine and Mefnamic acid for next 3-4 days. After recommended period of therapy uneventful recovery was recorded.

Reported Toxic effects of vincristine treatment are vomiting, diarrhoea, anorexia and high body temperature (Calvert *et al.*, 1982 , Dinesh *et al.*, 1993, Erunal-Maral *et al.*, 2000 , Gandotra *et al.*, 1993 and Singh *et al.*, 1996). In addition Nak *et al.* (2005) and Srivastava *et al.* (2009)¹ observed anorexia, diarrhoea, weight loss, generalized alopecia and localized alopecia as side effects of vincristine therapy. In human being autonomic dysfunction (colicky abdominal pain, constipation, adynamic ileus) is also

reported, especially in elderly patients. Hematological alteration i.e. Leucopenia, neutropenia, lymphocytosis and thrombocytopenia seen in present case were in accordance with Nak *et al.* (2005) and Srivastava *et al.* (2009)¹.

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