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Case Report

A Transmissible Venereal Tumor in a 2- Year Bitch: A Case Report

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ABSTRACT

A problem of protruding mass from the vagina was appeared in the bitch. That mass was small in size in beginning but with the passage of time its size was enhancing and blood was also oozing out from that mass. Examination of the protruded mass showed that it was the transmissible venereal tumor. Treatment with vincristine sulfate @ 0.025mg/Kg Body weight resulted in considerable reduction in the size of pedunculated mass after 3 weeks. Surgical treatment was avoided due to anatomical locations of the tumors. Surgery is usually done on small and localized tumors because during surgery contamination of surgical site may lead to recurrence of the TVTs.

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INTRODUCTION

In dogs, transmissible venereal tumor, canine transmissible venereal tumor, canine transmissible venereal sarcoma and sticker tumor are naturally occurring tumor that is usually caused by sexual contact to infected one. Its occurrence is more in sexually active dogs of 2-5 years age old (Gurel et al., 2002). Its transmission occurs through coitus, licking and biting of affected area (Khan and Line, 2005)

TVT is not caused by virus or virus like agent but the causative agent is the cancer cell itself. The normal cell of dog contains 78 chromosomes but cancerous cell contain 57-64 chromosomes so they differ in appearance from normal cell. The chromosomes are acrocentric except **X** and **Y** chromosomes in dogs but cancerous cells are metacentric and submetacentric. They are mostly benign but only 5 % are metastatic and can metastasis can occur to regional lymph nodes and sometimes to spleen, kidney, eyes, pituitary, skin and peritoneum.

Case description:

The owner of a bitch (age 2 years) visited the clinical medicine and surgery department, Faculty of Veterinary Medicine, University of Agriculture, Faisalabad and presented complaint that his bitch is continuously losing weight from last 4 months and a mass is protruding out from vagina .He also told that blood oozes out from that mass. The food intake of the bitch was normal and she was alert. On inquiring he informed she mated with a stare dog before 6 months but she didn't conceive.

According to owner in beginning that mass was just like a button but its size enhanced gradually and he was expecting that it will recover itself. For examination that region was washed with normal saline because blood was oozing out from that surface. On examination a cauliflower like pedunculated growth was seen and the surface of the growth was ulcerated.

On the basis of clinical signs & symptoms the bitch was suffering from the transmissible venereal tumor and treated with Vincristine sulfate @ 0.025mg/kg Body weight (I/V) slowly once in a week and owner was advised to repeat the injection for 6-7 weeks or 0.5mg/ m^2 (Martins et al., 2005; Khan and Line., 2005). Owner was also informed that this injection may lead to alopecia in bitch.

Surgical excision cannot be done because of anatomical location of tumors and recurrence is likely in such cases unless adjunct radiation or chemotherapy is used (Khan and Line, 2005). In the above case, a protruded mass from the vagina from which blood was oozing out and loss of weight was noticed by the owner. The protruded mass was enhancing gradually.

Discussion

TVT is immunogenic tumors & immune system of host has main role in inhibiting growth & metastasis. The development of TVT is mediated by the immune system, where the outbreak of disease represents the success of the neoplasia in overcoming the host immune system. Puppies born to females who are exposed to TVT are less likely to contract this cancer. Immunocompromised animal are more prone to viable TVTs, development of the tumors & metastasis depends on the immune system of animal. In healthy animals, TVT regresses spontaneously. Regression is associated with the infiltration of lymphocytes and plasma cells and with necrosis and apoptosis (Stockmann et al., 2011). In young animals more chances of metastasis. According to a study metastasis in males (16%) and in females (2%) (Martins et al., 2005).

TVTs are made up of homogenous tissue with compact mass cells that are mesenchymal in origin & borders of which cannot be differentiated easily. TVTs should be differentiated from mastocytomas, histiocytomas or malignant lymphomas (Stockmann et al., 2011). The diagnosis of the tumor is suggested by the anatomical location of the tumor, histopathological features and cytology of the tumors (Park et al., 2006).

According to a study for the differentiation of TVTs from the lymphoma is done on the base of negative reactivity to CD_3

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and CD_{79} which are used as markers for T lymphocytes and B lymphocytes and these can be differentiated further on the basis of positive staining against vimentin. Histocytoma can be differentiated from TVTs on the basis of anatomical location and cytogenic features. The histiocytoma are originated from the Langerhans cells and these lives in skin and serve as part of immune system b/c incoming antigens are processed by immune system and it present them to other immunologic cells (Iain , 2012) .

TVTs arise from allogenic cellular transplants & abnormal cells of the neoplasm are the vectors of transmission. The exfoliation of neoplastic cells during physical contact provides the main mode of transmission onto genital mucosa, and also onto nasal & oral mucosa. The implantation of the tumor is facilitated by the presence of any mucosal lesion or by the loss of integrity of mucosa (Stockmann et al., 2011). Tumors grow after 15-60 days of implantation. In case of large and intensive tumors recurrence rate is 50-68% (Martins et al., 2005).

As it depends upon the condition of the immune system of the animal as duration of disease increased the immune system is weekend and treatment response is very slow. According to a study, in cases of longer duration, longer periods of therapy are required and the cure rate is usually lower (Boscos and Ververidi, 2004)

Vincristine can cause myelosupression and gastrointestinal effects resulting in leucopenia and vomiting in 5-7 % of patients. The most frequent complications of Vincristine are the occurrence of local tissue lesions caused by extravasations of drug during intravenous application resulting in the development of necrotic lesions with crust (Calvet et al., 1996).

As we observed the clinical signs and symptoms confirm the diagnosis that the bitch was suffering from TVTs and bleeding was due to ulceration of the growth surface. TVTs are transmitted to the bitch from the roaming dog during coitus.It can be control by avoiding the mating of dogs with roaming or infected one.

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