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Mastectomy in a geriatric female dog

H Zorinpuii and JB Rajesh

Abstract

A 12-year-old boxer female dog weighing 25 kg was presented with a history of bulky solid mass present at the last quarter of mammary gland. FNAC was performed and the sample was sent to College of Veterinary Sciences and Animal Husbandry, Aizawl, Mizoram. The histopathology revealed squamous cell carcinoma. Complete blood count, liver function test, and renal function test were done to assess the health status. Mastectomy was performed with atropine as pre anesthetic with diazepam and ketamine was used as induction as well as maintenance.

Keywords: Dog, FNAC, squamous cell carcinoma, mastectomy

Introduction

With increasing the age of the animal, there are several diseases which are related to hormones and other pathological conditions like pyometra, mammary tumor in female dog and prostrate tumor and perineal hernia commonly found in old uncastrated male dogs and eventually fatal for the animal. Skin tumors are the most common group of neoplasms in dogs and mammary tumors are the second most ones. 30-50% of neoplasms in female dogs are mammary tumors and they are the most common tumors in female dogs (Kumar *et al.*, 1992) [3]. Among the different mammary tumors recorded in dogs, adenocarcinomas are the most frequent tumors (14.6%) as per Singh *et al.*, (1991) [5]. Sassi *et al.*, (2008) [4] opined that mammary gland squamous cell carcinoma are very rare in human as well as veterinary sciences.

Materials and Methods

In this manuscript, attempts were made to describe a very rare case of mammary gland tumor in a female dog. A 12-year-old boxer female dog weighing 25 kg which was presented to the clinic with history of massive growth present at last quarter of mammary gland. The animal underwent caesarean section two times and later ovariohysterectomy was done. The animal was extremely lethargic, inappetence and rectal temperature was high (104°F).

Fine Needle Aspiration Cytology (FNAC) was performed and sample was sent to Department of Veterinary Pathology, College of Veterinary Sciences and Animal Husbandry, Central Agricultural University (I), Selesih, Aizawl, Mizoram. The histopathology has revealed squamous cell carcinoma (Fig. 1). Hematological parameters like complete blood count, renal function test and liver function test were performed and the results were within normal range.



Fig 1: Squamous cell carcinoma

Prior to surgery, the patient was monitoring with intravenous fluid, antibiotic, proton pump inhibitor and NSAID. Once the temperature comes to normal range, the physical parameters were evaluated. Atropine was given @ 0.02mg/kg body weight intramuscularly prior to give induction. After 15 minutes of pre-anesthesia given, induction was started with ketamine @ 10mg/kg body weight and diazepam @ 1mg/kg body weight following with 1:1 of ketamine and diazepam as maintenance during the entire operation. The tumor mass was weighing 1.06 kg and was excised completely (Fig. 2).

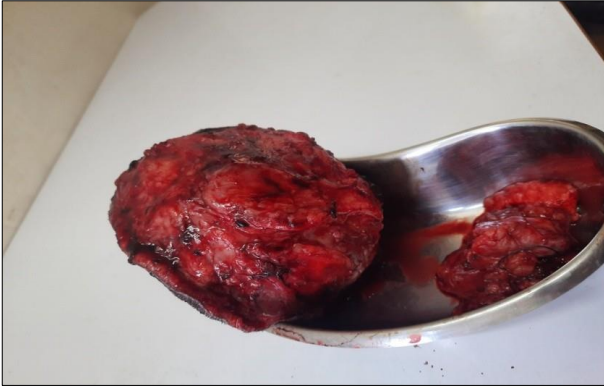


Fig 2: Tumor mass

Results and Discussion

The animal recovered smoothly and post-operative care was done with antibiotic, pain killer and intravenous fluids.

Like many other tumors in canine the etiology of mammary tumors is unknown. The occurrence of primary squamous cell carcinomas of the mammary gland is less than 1% of mammary gland carcinomas and hence they are rare. Further etiology of the condition is not known (Krech *et al.*, 1998) ^[1]. Chronic inflammation and endocrine stimulation may have an inductive role in the development of these tumors. The mammary gland epithelium is built up for the proliferative activity when the dog attains the active reproductive stage (4 to 10 years), This is because of the influence of different hormones. Srivastava *et al.*, (2009) ^[6] postulated that carcinogenic exposure along with hormonal disturbance makes the mammary epithelium leads to development of tumors in canine during this period. Other tumors of the body and skin has a very similar appearance. Only the mammary gland was affected by the tumor growth in this case. Radical surgery is the best option because of excessive growth of the tumor was within few weeks. To avoid hormonal disturbance, ovariectomy before the first estrous is advisable and to evade the risk of mammary tumor later (Kristiansen *et al.*, 2016) ^[2].

Conclusion

A case of squamous cell carcinoma in a female geriatric dog along with mastectomy is described. The symptoms and diagnostic approaches were detailed. The anesthetic protocol along with surgical procedures were given. The results were examined and discussed.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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