



SUCCESSFUL SURGICAL MANAGEMENT OF MULTIPLE MAMMARY TUMOURS IN A MONGREL DOG

Snehasis Pradhan^{1*}, Jayakrushna Das¹, Srinivas Satapathy², Subhashree Nayak³ and Manas Ranjan Praharaj⁴

¹Department of Veterinary Surgery & Radiology,

²Department of Veterinary Anatomy and Histology,

³Department of Veterinary Microbiology,

College of Veterinary Science & Animal Husbandry, OUAT, Bhubaneswar, Odisha – 751003.

⁴Department of Veterinary Biotechnology, IVRI, Izatnagar, Bareilly, U.P.-243122

*Corresponding Author: email: drsnehasispradhan@gmail.com

ABSTRACT

A seven year old female dog was presented with the history of anorexia, occasional vomiting, loss of condition and a large sized swollen mass at the abdomen. There was ulceration of the skin on the growth. Physical and radiographical examinations confirmed as a case of tumor. It was planned for the early surgical excision of the mass. Under injectable general anaesthesia, excision of the tumour mass was performed with proper control of haemorrhage. The patient recovered well and no recurrence observed even after a year of surgery.

KEYWORDS: Dog; Mammary tumour; surgical management.

INTRODUCTION

A tumour (neoplasm) is caused by a purposeless multiplication of living cells and it is different from inflammatory hyperplasia. It is more common in carnivore as compared to other animals. Old animals are affected more commonly than younger ones (Venugopal, 2013). In canines, mammary tumors are the second most frequently encountered spontaneous neoplasms following those derived from skin (Moulton *et al.*, 1970). The mammary tumours tend to persist, grow and metastasize to regional lymph nodes, lungs, liver and other organs (Lacroix and Hoskins, 1952; Nelson, 1972). As in humans, cancers are now a common cause of death in dogs (Inoue *et al.*, 2015). In female dogs, mammary tumors are the most common neoplasm and approximately 50 % of these tumors are histologically malignant (Gilbertson *et al.*, 1983). Surgical removal of tumors mass is a commonly employed treatment, but one single surgical procedure may not suit all patients due to variation in tumor type and growth duration (Allen and Mahaffey, 1989). This paper reports about the successful management of multiple mammary tumour in a mongrel dog.

HISTORY AND TREATMENT

One 7 years old female mongrel dog weighing 18 kg body weight was presented with complaint of a large pendulous growth of dimension 17cm×10cm on the posterior-ventral side of the abdomen with ulceration over it, anorexia, fever, dullness and occasional vomiting. The radiographic study revealed radio-dense/opaque masses. The palpation revealed two masses one beneath another and the smaller one was below the outer larger one. The outer mass was not fluctuating and needle aspiration revealed no fluid inside it. Hence the condition was suspected for any neoplastic growth/ tumour. The condition of animal was stabilized with administration of intravenous Dextrose

Normal Saline (DNS) solution along with antibiotic Ceftriaxone Sodium 500mg intramuscular (IM) two days before the surgical intervention. The animal was kept off fed for 24 hours and anaesthetized using atropine @ 0.04mg /kg body weight (b.wt.), xylazine@0.5mg/kg b.wt. and ketamine@5mg/kg b.wt along with fluid therapy. The site was shaved routinely, cleaned and draped properly. The outer pendulous mass was hold and ventral midline incision was given on it. Then the skin and subcutaneous tissues were separated with blunt incision and the tumour was exposed. Blood vessels supplied to the stump were ligated properly, transfixed and the mass was excised. Then the second tumour growth was approached and it was also excised in routine manner with proper control of haemorrhage. Then site was cleaned with normal saline solution. The muscle was sutured with Vicryl no 1/0 suture. The extra pendulous skin was excised and sutured with mersilk in interrupted pattern. Then Povidone iodine solution and Mupirocin ointment (Staphban, Sava vet pharmaceuticals) was applied over it. The animal was given ceftriaxone@10mg/kg b. wt. and meloxicam @0.02mg/kg b.wt. and the same was continued for 5 days as postoperative measure. The animal did not show any recurrence even after one year post-operatively.

RESULTS & DISCUSSION

The canine mammary tumours mainly occur in adult female dogs. The bitches aged 7-11 years are most frequently affected with mammary tumours (Schneider 1970). The caudal mammary glands are more often affected than cranial glands (Else and Hannat 1979) which was also observed in the present case. The risk of developing mammary gland tumors significantly decreased by ovariohysterectomy at an early age (Sorenmo *et al.*, 2000). Khare (2000) observed that recurrence of mammary tumors was less in surgically

treated dogs. According to Hoffer (1974) canine mammary gland malignancies are usually malignant with every one tumour out of four having tendency of metastasis. All mammary neoplasm should be regarded as potentially malignant regardless of size and number (Aiello, 1998). In the reported case prompt decision of doing the radiograph examination was fruitful and confirmed the diagnosis. Then the immediate planning

and successful execution of surgical procedure for the removal of tumour masses relieved the pain and suffering of the animal. There was no recurrence even after one year of surgical procedure. Histopathology revealed increased number of collagen and fibroblast cells, confirms the tumor to be a fibroma as shown in figure1-6.



FIGURE 1: Large sized Mammary tumor with ulceration over the skin.



FIGURE 2. The excised tumour mass after surgical procedure.



FIGURE 3: The wound margin after healing.

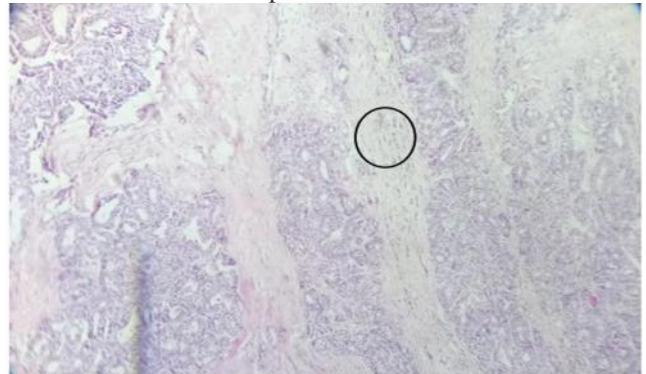


FIGURE 4: The circle showing that, It is a case of tumor as the number of fibroblast cells per unit field increased per field under compound microscope (H & E, 10X)

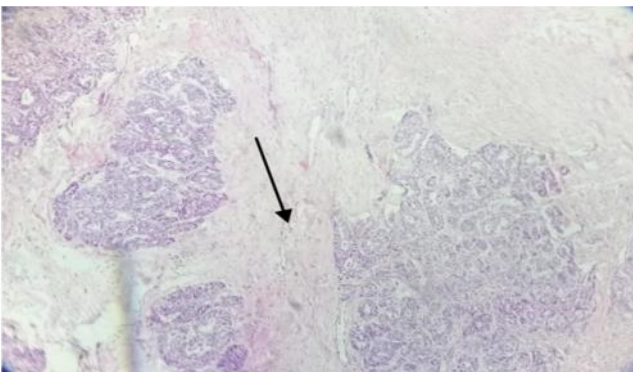


FIGURE 5: Arrow showing the presence of abundant collagen fibers in the parenchyma of mammary gland (H & E, 10X).

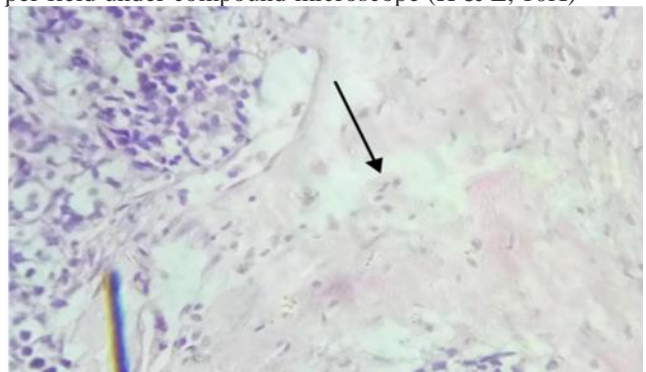


FIGURE 6: Arrow showing the fibroblast cell in the connective tissue (H & E, 45X).

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