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## Successful surgical management of mammary tumor in a dog: Case report

**Mrunali Kamble, Rukmani Devangan, Raju Sharda, SK Tiwari, MO Kalim, Poornima Gumasta, Shubhangi Argade, Sanjay Yadav and Devendra Yadav**

### Abstract

A 13 years old miniature spitz Pomeranian female dog was reported with the complaints of inappetence, reduce water intake, occasional vomiting, non-responsive to medicinal treatment and growth which was increasing day by day since two months. Clinical examination revealed fever, dyspnea, auscultation of chest revealed consolidation of lungs on either side or large growth was observed in left caudal abdominal gland. With taking all aseptic precaution under dissociative anaesthesia, surgical intervention was given and remove large growth weighing 2.2 kg. Surgical wound was sutured with standard routine manner. On histopathological examination revealed proliferation of malignant mesenchymal cells derived from fibrous connective tissue along with presence of immature proliferative tubular epithelial cells representing fibrosarcoma of mammary gland. Uneventful recovery marked the successful surgical intervention.

**Keywords:** dog, mammary tumor, anesthesia, histopathology, fibrosarcoma

### Introduction

The mammary gland tumors are the most common type of tumors in unsprayed female dog. In canines mammary tumors are the second most frequently encountered spontaneous neoplasms following those derived from the skin (Moulton *et al.*, 1970) [10]. Dachshunds, cocker spaniels, toy poodles, German shepherds, mixed breed dogs have been reported to have an increased incidence of mammary neoplasia (Murphy (2008) [11]. Canine mammary tumours are known to be the most common malignancy causing metastasis. A few dogs are diagnosed with advanced metastasis (tumors that have spread to elsewhere in the body, such as the lungs and lymph nodes) liver and other organs (Lacroix and Hoskins, 1952) [8] and might be feeling ill from their tumors when they come for treatment. Meuten, reported that about 20.0-40.0% of bitches with mammary tumors developed malignant kinds. Although Simeonov and Stoikov reported that only 19.0% benign and 81.0% mammary tumors were malignant. Misdrop (2002) reported, most frequently mammary gland tumors are found in 5 years and older bitches 10-11 years. These tumors can be a single or several tumors and they can occur in one or more glands. The last two sets of glands (4th and 5th glands) are most commonly affected and the tumors can be firm or soft, well-defined lumps or diffuse swellings. Tumors can be attached to underlying tissues or moveable, skin-covered or ulcerated. The most common treatments used surgical excision, but one single procedure dose not suit all the patient due to variation in the tumor type and duration of tumor growth (Allen and Mahaffey, 1989) [1]. This paper reports successful management of mammary tumor in dog with uneventful recovery.

### Case History and Clinical observation Treatment

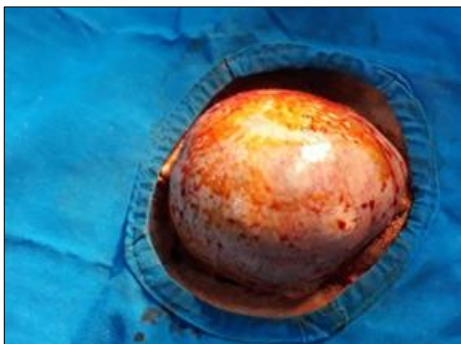
A 13 years old old miniature spitz Pomeranian female was presented in the TVCC with the history of inappetence, reduce water intake, occasional vomiting, non-responsive to medicinal treatment, loss of condition and growth on abdomen since two months (Fig. 1). Clinical examination revealed fever (101.9 °F), dyspnoea, and auscultation of chest revealed consolidation of lungs on either side or a large growth observed in caudal abdominal region. The history revealed gradual increase in size of tumour for last 2 months. The case was diagnosed as malignant mammary tumor and surgical excision was planned.

## Treatment and Discussion

The dog was premedicated with cocktail mixture of atropine sulphate @ 0.04 mg/kg B. W. and inj. Xylazine hydrochloride @ 1 mg/kg B. W. IM. Ventral abdominal region was prepared for surgery with taking all aseptic precaution and during surgery animal was maintained with combination of Inj. Ketamine hydrochloride @ 10 mg /kg body weight and Inj. Diazepam @ 10 mg /kg body weight. A circular incision was made around the mass and with the help of Babcock forceps excised the tumorous tissue from the base. Vessels ligated with chromic catgut and the site was cauterized with pp lotion. The excised tumor mass was sent for histopathological examination. The skin incision was closed in routine manner with simple interrupted suture.

Postoperatively the dog was treated with Inj. Ceftriaxone 20mg/kg B. W. and Inj. Meloxicam 0.5 mg/kg B. W. along with fluid therapy intramuscularly daily for 5 days. Antiseptic dressing of the wound was done with betadine solution upto complete healing and skin sutures were removed on 12<sup>th</sup> postoperative day. The animal did not show any recurrence for 6 months postoperatively. The histopathology examination of the tumor revealed proliferation of mesenchymal cells along with tubular epithelial type representing Fibrosarcoma of mammary gland.

In canines aged between 7-11 years were most frequently affected with mammary tumours (Schneider 1970) [13]. Else and Hannat (1979) [4] reported that the caudal mammary glands are more often affected than cranial glands, which was also observed in the present case. The risk of developing mammary gland tumors in dog significantly decreased by ovariohysterectomy at an early age (Sorenmo *et al.* 2000). Dozza and Culuzzi (1963) [3] found increased urinary estrogen in bitches with mammary neoplasms. Recurrence of mammary tumors was less in the surgical treatment reported by Khare (2000) [7]. In the present study we Similar treatment was given to animal with uneventful recovery of dog in the present case.



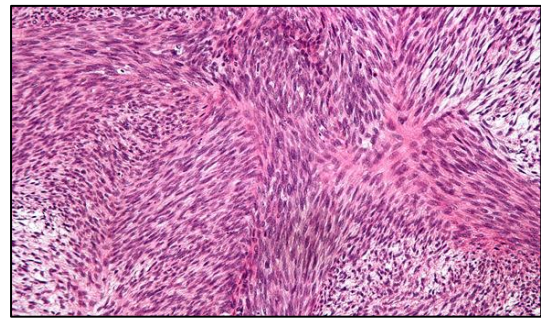
**Fig 1:** Large growth was seen on abdomen



**Fig 2:** Remove large tumor from base weighing about 1.9 kg.



**Fig 3:** Skin incision was closed with nylon with simple interrupted suture.



**Fig 4:** Fibrosarcoma of mammary gland.

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