



ISSN (E): 2277- 7695  
ISSN (P): 2349-8242  
NAAS Rating: 5.23  
TPI 2021; SP-10(11): 2205-2207  
© 2021 TPI  
[www.thepharmajournal.com](http://www.thepharmajournal.com)  
Received: 03-09-2021  
Accepted: 05-10-2021

**Satish Kumar**  
GVD-Nimana, Distt- Jhajjar,  
Haryana, India

**Sunil Punia**  
Ph.D. Scholar, Department of  
Veterinary Medicine, Lala  
Lajpat Rai University of  
Veterinary and Animal Sciences,  
Hisar, Haryana, India

**Ravi Kumar**  
M.V.Sc. Scholar, Lala Lajpat  
Rai University of Veterinary &  
Animal Sciences, Hisar,  
Haryana, India

**Pradeep Kumar**  
M.V.Sc. Scholar, Lala Lajpat  
Rai University of Veterinary &  
Animal Sciences, Hisar,  
Haryana, India

**Corresponding Author**  
**Sunil Punia**  
Ph.D. Scholar, Department of  
Veterinary Medicine, Lala  
Lajpat Rai University of  
Veterinary and Animal Sciences,  
Hisar, Haryana, India

## Surgical management of mammary tumor in a she-dog

Satish Kumar, Sunil Punia, Ravi Kumar and Pradeep Kumar

### Abstract

A female dog of mixed mongrel breed was reported with tumorous growth on cranial mammary gland. This growth was removed surgically under general anaesthesia after proper fasting. The female dog made uneventful recovery and the skin sutures were removed on 14<sup>th</sup> postoperative day. On histopathology, it was found to be adenocarcinoma. Such types of clinical condition are common in intact bitches and their occurrences decreases after spaying at young age.

**Keywords:** Female dog, tumor, adenocarcinoma, mammary gland

### Introduction

Mammary tumors are uncommon in male dogs but the most common tumor of female dogs. Approx. 35-50% of canine mammary tumors are malignant. Malignant mammary tumors spread via lymphatic and blood vessels to regional lymph nodes and lungs. These tumours represent a serious problem in the veterinary practice as the fastest progressive cause of canine morbidity (Misdrop, 2002; Sontas *et al.*, 2009) [3]. Other less common metastatic sites include the adrenal gland, kidneys, heart, liver, bone, brain, and skin. The cause of mammary gland neoplasm is uncommon, however, many are hormone dependent. Most can be prevented if OHE (Ovariohysterectomy) is performed before one year of age. The risk of mammary tumor dogs spayed before their first estrus is 0.05%. The risk increased to 8% after one estrus cycle and 26% after the second estrus. Estrogen and progesterone receptors are found in 50% of malignant and 70% of benign canine mammary tumor. Overall, Unspayed female dogs have a seven times greater risk of developing mammary neoplasm than spayed female (Marconato *et al.*, 2009; Ezerskyte *et al.*, 2011). Administration of the progesterone maybe associated with the development of benign mammary tumor in dogs and these dogs have more than threefold risk of developing mammary tumor.

### Case Presentation and Surgical Procedure

One 10 years old mixed mongrel breed bitch weighing 23 kg body weight was presented in the GVD Nimana, Distt- Jhajjar with the history of large tumorous growth on the cranial mammary glands (figure.1), Physiological parameters were within the normal range. Clinical examination revealed hard mass and surgical excision was planned. The animal was kept on fasting for 12 hours and anesthetized using atropine @ 0.02mg /kg body weight (B.WT.), xylazine@0.5mg/kg B.WT and ketamine@2.5mg/kg B.WT I.M. along with fluid therapy. The site was prepared aseptically by clipping, scrubbing and draping (fig. 2). A circular incision was given over the growth. 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 tumorous mass was excised completely (fig. 3). Then site was cleaned with normal saline solution. The muscle was sutured with polyglycolic acid no. 1 suture. The skin was sutured with silk in interrupted pattern (figure.4). The bitch was given cefotaxime@10mg/kg b. wt. i.m. and meloxicam @0.02mg/kg B.WT.I.M for five days. Daily dressing of surgical wound was done with liquid betadine and fly repellent spray and the same was continued for 5 days as postoperative measure. The bitch made uneventful recovery and the skin sutures were removed on 14<sup>th</sup> post-operative day.

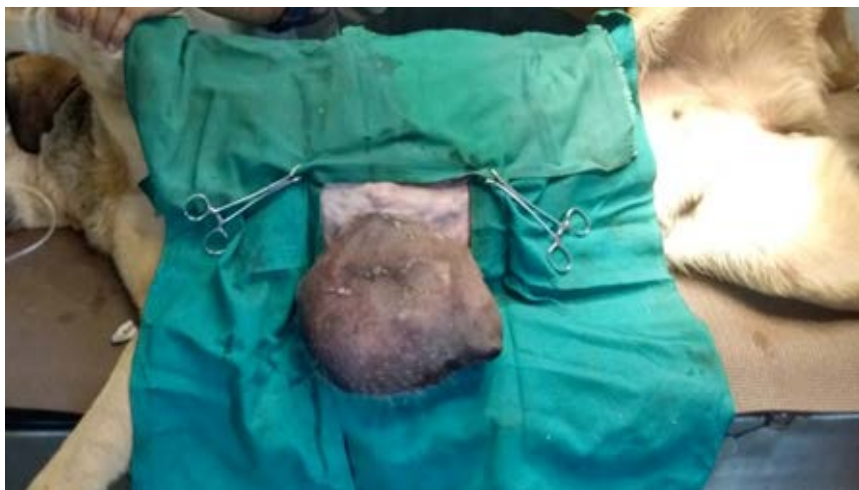
Histopathologically, it was diagnosed as adenocarcinoma characterized by presence of neoplastic cells arranged in tubular fashion. The linings of the tubules were 2-3 cells thick. Most of the neoplastic cells showed pleomorphic (oval to round) vesicular nuclei with single prominent nucleolus (figures 5).

## Result and 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) [6]. In present case mammary tumour excised was in a female German shepherd dog and Vishvanath *et al.* (2000) reported the higher incidence of tumours in German shepherd dogs. Moulton (1990) [5] observed sixty per cent of the mammary tumours involve posterior glands and more common neoplasia in female dogs but in the present case tumour was present on cranial mammary gland. In the present case histopathology confirmed adenocarcinoma of mammary gland of female dog. Similar case reported in bitch by Anup and Sundaram (2009) [1].



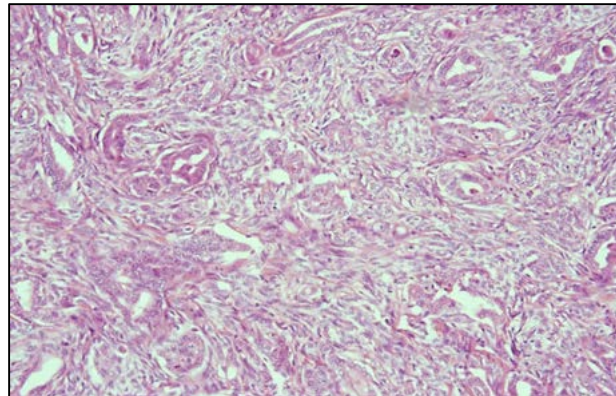
**Fig 1:** Female dog with tumorous growth on cranial mammary gland



**Fig 2:** The female dog under general anaesthesia with surgical site prepared and draped



**Fig 3:** Excised mass



**Fig 5:** Histopathology of excised mass showing adenocarcinoma



**Fig 4:** Incision ends at skin closed with silk

## References

1. Anoop S, Sundaram KS. Mammary papillary adenocarcinoma in a bitch. *The Indian Veterinary Journal* 2009;86:510-11.
2. Ežerskytė A, Zamokas G, Grigonis A. The retrospective analysis of mammary tumors in dogs. *Veterinary medicine and zootechnics* 2011;53(75):3-8.
3. Sontas BH, Ozyogurtcu H, Gurel A, Ekici H. Evaluation of clinical and pathological characteristics of 155 canines with mammary tumours: a retrospective study. *Archivos de Medicina Veterinaria* 2009;41:53-59.

4. Misdorp W. Tumors of the mammary gland. In: Meuten DJ, Tumors in Domestic Animals. 4th ed. Ames, IA: Iowa State Press 2002, 575-607.
5. Moulton JE. Tumours of the mammary gland. In: Tumours in Domestic Animals, 4th Edn., J.E. Moulton, Ed., University of California press, Los Angeles 1990, 518-52.
6. Schneider R. Comparison of age, sex and incidence rates in human and canine breast cancer. Cancer 1970;26:419-426.
7. Visvanath S, Vijayasarithi SK, Sreenivas Gowda RN, Satyanarayana MJ. Epidemiology of canine oral tumour. Indian Veterinary Journal. 2000;77:107.