

Adenocarcinoma of the Mammary Gland and Its Surgical Excision in a Male Dog – A Case Report

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Abstract

An eight year old intact male Labrador dog was brought to the hospital with a history of swelling in the caudal abdominal region for the past 3 months and the owner also reported that the mass kept on growing. Physical examination revealed the presence of a hard, painless mass on the right caudal thoracic mammary gland. On clinical examination, all vital parameters were under normal range. On fine needle aspiration cytology the case was diagnosed as mammary gland adenocarcinoma. Pre-operative haemato-biochemical values were under normal range and thoracic radiograph showed no metastasis. Hence, surgery was fixed and a radical excision of right caudal thoracic mammary gland along with the draining lymph node was done. The excised mass was sent for histopathological analysis and the condition was once again confirmed as mammary gland adenocarcinoma. Post-operative care with antibiotics, supportive therapy and wound dressing were followed. Sutures were removed on 7th post-operative day, after the complete healing. Post-operative follow up was done for 3 months and the animal made an uneventful recovery with no recurrence.

Key words: Mammary gland, Adenocarcinoma and Male dog.

Mammary tumours are the most commonly occurring tumour in sexually intact female dogs.

Most of the mammary tumours are epithelial cells origin and it affects mostly middle aged and older dogs. Approximately 50% the mammary tumors are malignant in nature (Kwon *et al.*, 2017). Occurances of mammary tumours are rare in males. As per the previous

studies, the incidents of male mammary gland tumors are 62 times lesser when compared to the female mammary gland tumors (Saba *et al.*, 2007).

Case History and Observations

An eight-year old intact male Labrador dog was brought to the Teaching Veterinary Clinical Complex, Tirunelveli with a history of swelling in the caudal abdominal region for the past 3 months and the mass kept on growing as days passed by. Physical examination revealed hard, painless, swollen mass in the right caudal thoracic mammary gland, which Measured 7 cm in length and 5 cm in breadth and was painless on palpation.(Fig.1) Fine Needle Aspiration Cytology (FNAC) was taken from the mass and the condition was tentatively diagnosed as mammary gland tumour. Pre-operative blood was collected for hemato-biochemical analysis and a thoracic radiograph was taken to rule out pulmonary metastasis. The hemato-biochemical values were found to be under normal range and radiographic image revealed no pulmonary metastasis. Surgery was fixed for radical excision of the right caudal thoracic mammary gland and the draining lymph node.

Treatment and Discussion

Animal was premedicated with Inj. Atropine @ 0.04mg/kg i.v and Inj.Xylazine @ 1 mg/ kg i.v. The ventral abdomen was shaved and scrubbed with 7.5 per cent povidone iodine solution. Anaesthetic induction was done using Inj. Diazepam @ 0.5 mg//kg i.v and Inj. Ketamine @ 5 mg/kg i.v in the ratio of 1:1. Animal was positioned in dorsal recumbency draping was done. An elliptical skin incision was made around the mass with 1 inch margin. By radical excision, the tumour

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Fig. 1 Pre-operative picture showing a tumour mass on the right caudal thoracic mammary gland

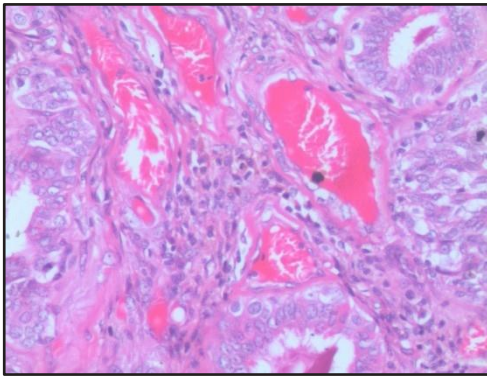


Fig. 3 Microscopic slide showing adenocarcinoma of the mammary gland (hematoxyline and eosin stain, 100x)

mass of the Right caudal thoracic mammary gland along with the draining lymph node (right axillary lymphnode) was excised (Fig. 2) and samples were collected for histopathological analysis. Subcutaneous tissue was sutured with PGA 2/0 and Skin was apposed with silk 1/0 in cross mattress suture pattern. Post-operatively analgesic (Inj. Tramadol @ 2 mg/kg b.wt i.v) and antibiotics (Inj. Ceftriaxone Sulbactam @ 15 mg/kg b.wt i.v) was given and oral therapy was continued with Tab. CefPet XLV @15 mg/kg b.wt once in a day for 5 days, Tab. Relaxzyme twice a day for 10 days, Syrup. Platepet -10 ml twice a day and wound dressing with Ointment. Centis continued for 7 days. Skin sutures were removed on 7th postoperative day after complete healing. Histopathological analysis of the samples got from the excised mass, revealed neoplastic cells of different sizes with, anisocytosis, anisokaryosis, haemorrhages, high Nucleus/ Cytoplasm ratio, and mitotic figures. Based on the histopathology result the tumour was confirmed as mammary gland adenocarcinoma (Fig. 3). A follow up for six months has been



Fig. 2 Gross picture of the excised tumour mass

done and the animal made uneventful recovery with no recurrence.

In male dogs, the triggering factors for mammary tumors are still obscure. Few studies have shown that hormonal abnormalities due to testicular neoplasms, predispose towards their occurrence. Adenocarcinoma, papillary cystadenocarcinoma, carcinosarcoma, simple adenoma, and spindle cell sarcoma are the commonly reported types of mammary gland tumor in dogs (Zuchi *et al.*, 2018). Metastasis of canine mammary gland mainly occurs via lymphatic and the blood vessels that supplies the affected glands, hence it is always advisable to do radical resection of the affected gland with its draining lymph node to avoid recurrence (Bhuvaneshwari and Begum, 2019).

Summary

A rare case of canine male mammary gland tumor was successfully managed by radical excision of the mass along with the draining lymph node.

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