

Mammary Gland Fibroadenoma in a Bitch

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Abstract

The work was conducted on an adult German shepherd bitch having a growing lump in the mammary gland. Tentatively it appeared to be a case of benign tumour of first left thoracic mammary gland. Sample was collected for cytopathological and histopathological examination of the affected tissue. FNAC was done by Papanicolaou's stain while routine paraffin embedding technique was employed for histopathological examination, which revealed it to be a case of mammary gland fibroadenoma which was then surgically removed successfully with full recovery.

Keywords: Mammary gland fibroadenoma, benign tumour, FNAC

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INTRODUCTION

The frequency of mammary neoplasm in different species varies tremendously. The dog is by far the most frequently affected domestic species. Approximately 50% of all the tumours in the bitch are mammary tumours. However, it is rare in cows, mares, does, ewes and sows. The occurrence frequency in dogs varies in different breeds. The greatest frequency of mammary tumour is found in poodles, Boston terriers, sporting dogs etc. Roughly 80% of canine mammary tumours are diagnosed in bitches above 7 years of age. About 25–50% cases are of malignant mammary carcinoma [1]. Mixed mammary tumours are most common in bitches [2]. According to WHO, canine mammary tumours are histologically classified in four categories i.e. malignant, benign, unclassified and hyperplasia/dysplasia. This classification reflects cellular atypia, pattern of neoplastic growth, the origin of neoplastic cells and descriptive morphology of each cellular component. The types of mammary tumour are determined by the histologic type, degree of invasiveness, amount of differentiation of cellular elements and mitotic index [3].

The most common site of canine mammary tumour is the caudal mammary masses, which may vary from microscopic to grossly visible, of various sizes. Masses may be sessile or pedunculated, solid or cystic and ulcerated or covered with skin and hair. It may be single or

multiple, soft or firm. Colour may be red, purple to grayish white.

In the present case a German shepherd bitch aged about six years was brought to clinical complex, Bihar Veterinary College, Patna, for treatment with history of a lump growing over a period for two months in the mid ventral abdomen (Figure 1). The animal was showing intense pain, reluctant to move and anorexia. It has been undergoing chemotherapy for the last few days.



Fig. 1: Gross Photograph Showing a Lump in the Mid Ventral Abdomen of a Labrador Bitch.

Clinical examination of the case revealed that all the mammary glands were normal except first left thoracic mammary gland which was solid in consistency. Benign tumour was suspected on physical appearance. Representative samples of the affected mammary gland were taken for cytopathological examination [4]. Also, tissues from lump were obtained with the help of biopsy punch for further investigation. The sample was preserved in 10% neutral buffered formalin and stained with routine Haematoxylin and Eosin [5]. The FNAC of the lump revealed round to oval normochromatic nucleus with few mitotic figures with cells in clusters. Histopathological examination of the tumour showed predominancy of fibrocytes and collagen fibres in fascicles (Figure 2). Few areas showed infiltration of inflammatory cells predominantly mononuclear cells.



Fig. 2: Mammary Gland Tumour showing Predominancy of Fibrocytes and Collagen Fibres in Fascicles. H&E $\times 10$.

The lump was surgically removed completely under anesthesia, it grossly appeared as a single large round red mass and cut surface was gray tan and firm with few necrotic areas. The lump weighed about 2 kg. Antibiotic and anti-inflammatory treatment was recommended post-operatively. Complete recovery was reported. The cause of mammary tumour is unknown, but probably hormones play an important role in the hyperplasia and

neoplasia of the mammary tumours. Ovarioectomy before the first estrous reduces the risk to 0.5%. Other than hormones, genetic and nutritional factors have a profound effect [6]. These types of tumours are usually suspected on detection of mass during physical examination. The length of time the mass has been present is usually unknown, but the rate of growth may be helpful in determining prognosis. Examination of the regional lymph nodes can help determine the extent of spread. Radiography is helpful in malignancy determination. FNAC may differentiate between non-neoplastic and neoplastic lesions. However, histopathology is the most convenient and reliable method of diagnosis and recommending treatment procedure.

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