

Mammary gland Fibroadenoma (Fibroepithelial hyperplasia) in Buffalo Calves

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Abstract

In this study nine cases of udder fibroadenoma were treated surgically in Basra province, in the area extend, between Garmat-Alli & Gurna on both sides of Shat-al-Arab. The average size of removed tumor was 10-13kg. Grossly the tumor looks firm nodular and encapsulated , nodule size raging 2-7cm in diameter, and Pale to white in color. After surgical removal spacemen were taken for histological study a suitable size pieces were dehydrated, cleaned imbedded with paraffin wax and section were stained with haematoxylin and eosin and examined by light microscope.

Introduction

Mastitis is the common disease affecting mammary gland in dairy cattle. It involved one or two quarter or may be all the quarters at the same time, it causes partial or complete damage to the affected part. The second most famous disease is the mammary gland neoplasm^(Stephen&Gregory ,2006). mentioned the occurrence of papilloma and fibroadenoma of udder in buffalo. However many other authors recorded fibroadenoma in mammary gland in Buffalo heifer (Merial, 2006 &Oka, et.al.1998).

This study was performed to investigate the occurrence of fibroadenoma in buffaloes in southern Iraq and to investigate the gross and histological appearance of the lesions.

Materials and Methods

During the period between Jun 2005 and April 2006 many cases of mammary tumor in young buffalo calves referred by owner for treatment. A total of nine buffalo calves with mammary tumor were attended in the area extended form Garmat Alli to Qurna on both sides of shat al- Arab from Basra province. All the animal received similar food and management care and kept under similar climate condition. All the calves were between 4-6 month of age and shows similar symptoms including euplastic growth of mammary gland. Average weight of the tumor were ranging between 10-13 kg .the lesion appeared grossly like dam, firm, painless and nodular, the size of each nodule ranging between 2-7cm. It is pale to white in color. The tumor removed surgically under sedative and local infiltration with 2% lidocain.

Specimens were collected for histological studies. Suitable size of specimen pieces were fixed in 10% formalin for 24hs, then dehydrated, cleared , embedded in paraffin and sectioned, at 4-6 micron thickness then stained with hematoxylin and eosin stain and examined by light microscope.

Results

Grossly the tumor appeared as pale to white mass , dam, firm, painless and nodular encapsulate with an average weight of 10-13kg.. The size of each nodule ranging between 2-7 cm. (Fig. 1,2).

Microscopically, the neoplasm consisted of inflammatory cells with pleomorphic cells with abundant cytoplasm and vesiculated nuclei (Fig. 3). Edema in the connective tissue seen in all cases. (Fig 4). The tubular canal was lined with epithelial cells (several layers of epithelial calls (Fig 5). Mitoses were abundant and there were areas of necrosis and polymer- phonnuclear leukocytes infiltration in the stroma. hyperchromation was seen in all cases. The collagen hyperplasia was also intralobular spaces were severity dense (more than connective tissue) (Fig 6,7).

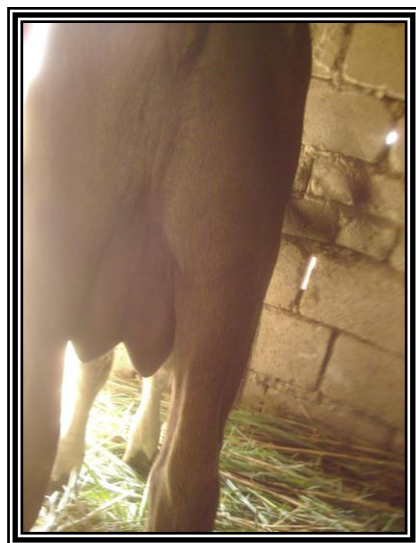


Fig.1: buffalo calf with large udder mass (pre-operative) (arrow).

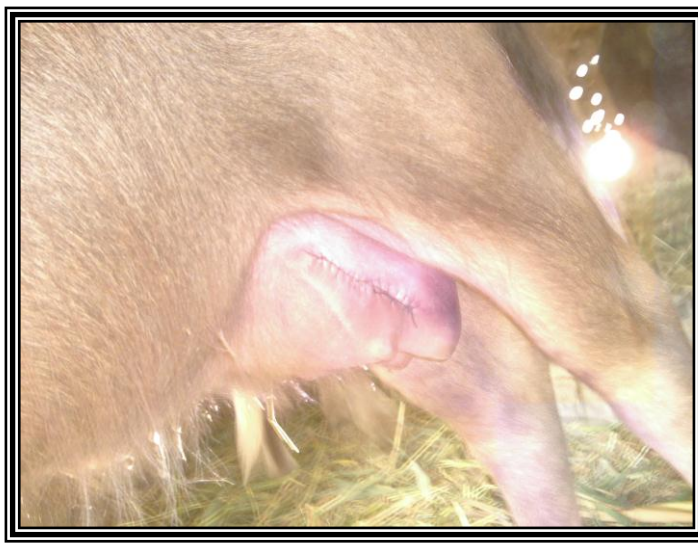


Fig.2: Another view of the calf shown in fig-1- note the surgical incision to remove the tumor . (arrow).

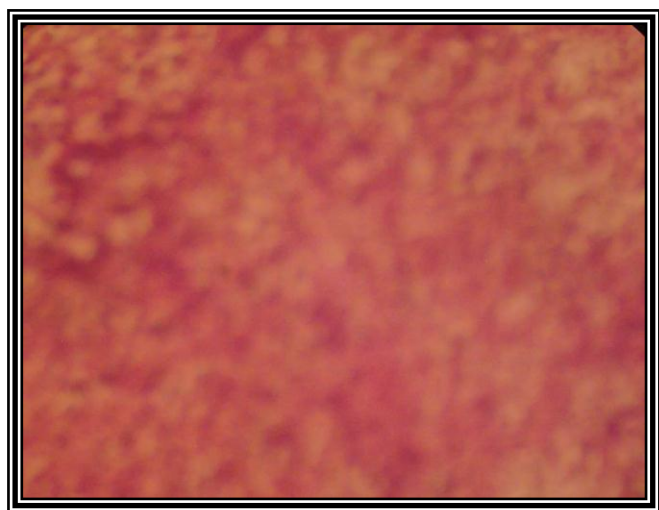


Fig (3): Fibroadenoma of buffalo calf. See the neoplasm consist of pleomorphic cell with abundant cytoplasm and dense collagen H and E. 100X.

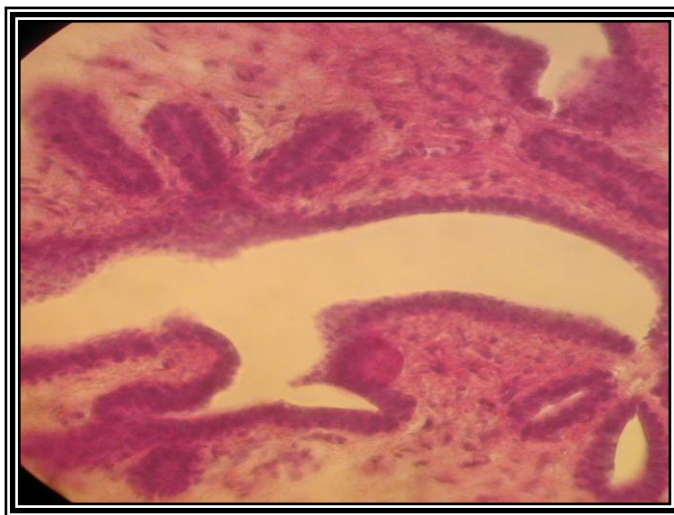


Fig (4): Fibro-epithelial hyperplasia in calf buffalo. See the edema of C-T. H and E. 100X.

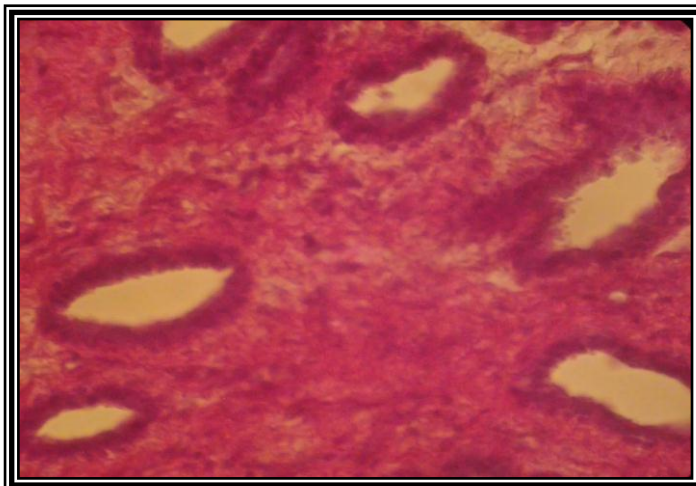


Fig (5): Fibroadenoma of buffalo calf. Note the lining of the tubular canal with several layers of cells. (Stratified epithelial calls). H and E. 100X.

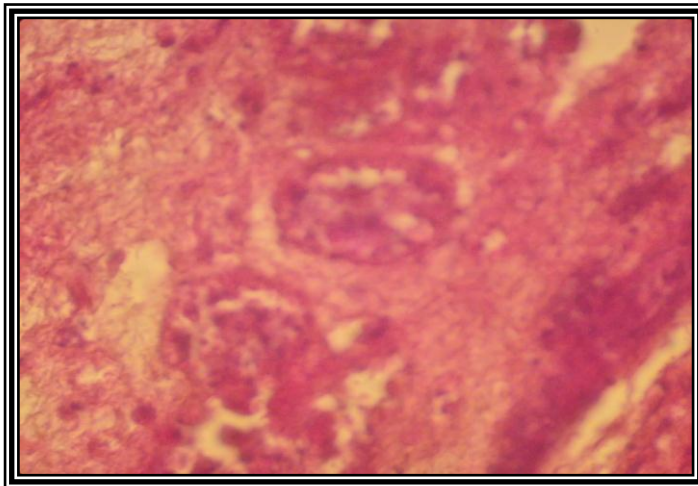


Fig (6): Fibroadenoma of buffalo calf. Note the hyperplasia interlobular tube. H and E 100X.

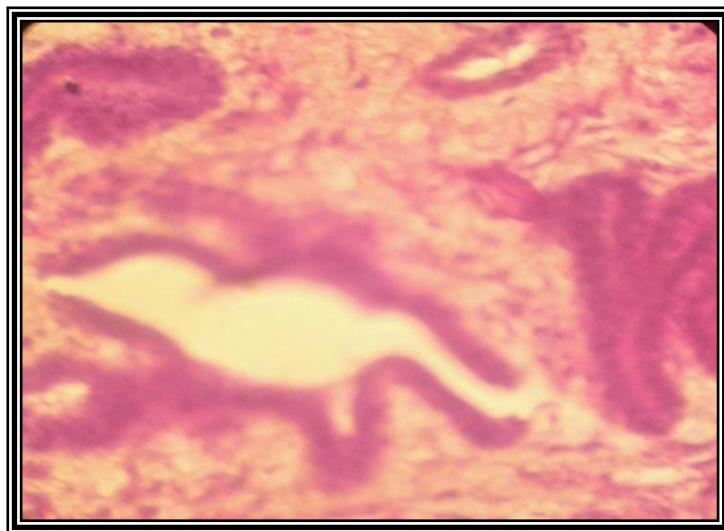


Fig (7): Fibroadenoma of buffalo calf. Note hyper-chromatin. H and E 100X.

Discussion

In this study, nine cases of fibro-epithelial hyperplasia in buffalo calves were recorded using the standard pathological techniques. From a review of the literature, this study is a preliminary report for in our area . furthermore fibro-epithelial hyperplasia is a rare type of tumors in both animals and women(Agha,et.al.,2005 ;Ralph &Moss,1989 &in,wikipedia)

The pathogenesis of mammary tumors in the cat. Although the association between ovariohysterectomy and incidence is not as strong as in the dog. (Do,2003 &Malleswara,et.al.2003).

Fibroepithelial hyperplasia will occur in young , cycling or pregnant female cats and has been seen in litters prior to their first estrus (Martin&Tlelem,1969;Caleffi&Filho,2004;Markopoulos,2001). According to (WHO) reports, fibro-epithelial hyperplasia in buffalo patient have been two basic types of noninflammatory fibro-hyperplasia of mammary gland tubular, lobular hyperplasia and fibro-epithelial hyperplasia (Diesing&Hornling,2004;ving&Wells,1989 &Saten &Mansel,2006 ;internete4,5). Mammary neoplasia has been reported to occur in cats from 9 months to 23 of age , with a mean age of occurrence of 10-12 years (Saten&Mansel,2006 &Ogilvie&Moore,1992).

Mammary tumors are treated surgically, although there is no consensus as to the best procedure. Removal of the tumor alone (lumpectomy), simple mastectomy removal of the affected gland only, modified radical mastectomy removal of the affected gland and those that share lymphatic drainage and associated lymph nodes. All have their proponents.

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Sound Notation

Vowels

- / I / short vowel in sin
- / e / short vowel / schwa / in the
- / aw / long vawel in court
- / oo / long vowel in too
- / ee / long vowel in feel
- / a / long vowel in car
- / u / short vowel in book
- / ei / long vowel in way
- / e / long vowel found in Iraqi Arabic as in ‘ sef ‘ / summer /

CONSONANT

- / kh / velar affricate in Scottish loch
- / j / palato-alveolar affricate in badge
- / w / palatal approximant in what
- / sh / palato-aveolar fricative in shine
- / s / alveolar affricate in qeseer / short /
- / h / pharyngeal fricative in heyat / life /
- / th / dental fricativein this
- / ‘ / pharyngeal fricative in edale / justice /
- / q / uvular plosive in geriye / village /
- / dh / dental affricate in dheif / guest /
- / g / velar fricative in geime / cloud /
- / y / palatal approximant in / yes /