

INCIDENCE AND MANAGEMENT OF TUMORS IN DOMESTIC ANIMALS

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ABSTRACT

A total of 33 cases (25 canine, 3 bovine, 3 equine and 2 camel) of tumors were attended and managed surgically in different species of domestic animals over a period of six months. Canine tumours mainly included the mammary gland tumors of benign or malignant nature and of single or multiple type. The clinical diagnosis based on gross appearance of tumorous growths was made followed by surgical resection using standard anesthetic and operative techniques. No any untoward sequelae was noted in any of the cases attended. Surgical removal of the entire mass was the treatment of choice. Benign tumors only affected the site but most malignant cancers had already spread before being diagnosed and treated. It was inferred that canines are more prone to tumors of varying nature and mammary tumors in particular, which can be successfully managed surgically.

KEYWORDS: Domestic animals, Tumors, Incidence, Surgical management.

INTRODUCTION

Tumors can be present in a wide variety of ways and can have an equally varied set of symptoms and outcomes (Moulton, 1961; Morrison, 2002). Because it is difficult to diagnose a tumor by visual inspection, it is important that all suspicious-looking tumors be examined by a veterinarian and followed up with diagnostic testing and identification. Treatment consists of surgical removal, cryotherapy, radiation, and possibly chemotherapy (Ettinger and Feldman, 2000). As with all tumors, prompt recognition and treatment is very important in obtaining the best possible outcome. The compiled literature on incidence and management of tumors in domesticated animals is scarce in India. Hence, the aim of this study was to know the incidence, and characterize the pathology and clinical outcome of the variant of tumors in different domesticated animal species in Gujarat.

MATERIALS AND METHODS

In all, 33 cases of tumors (25 canine, 3 each in bovine and equine, and 2 in camelid) presented to the Department of Surgery and Radiology of the College at Anand for treatment during the 6 months period formed the experimental material for this study. The physical examination of the tumorous growth, followed by surgical excision and histopathology of all tumors was carried out to know the nature of tumor.

The standard anaesthetic protocol and surgical technique were adopted for extirpation of tumour according to the nature of tumor and type of patient using overnight fasting. In canine, anaesthetic and operative procedures involved a pre-anaesthetic injection of atropine sulphate s/c @ 0.04 mg/kg b.wt. followed by general anaesthesia induced using diazepam and ketamine combination i/v @ 0.5-1 and 5-10 mg/kg b.wt. and maintained with the same during the operative procedure. Under general anaesthesia, wide resection was performed excavating tumor mass and surrounding tissues in all direction. Fluid therapy was given throughout surgery to compensate blood loss and to prevent shock. In bovine, the tumor mass was removed under local infiltration analgesia, and if required Xylazine @ 0.03 mg/kg b.wt. was given i/v to sedate the animal. In equine, the tumor mass was removed under general analgesia using Xylazine and Ketamine combination i/v @ 2.2 and 1.1 mg/kg b.wt. and in camels, the tumors were excavated under Xylazine sedation @ 0.5 mg/kg b.wt. i/v. Use of local infiltration analgesia with 2% Lignocaine HCl was common in all animals. Medical management was adopted in different species as per the recommended dose and duration.

RESULTS AND DISCUSSION

Incidence and Type of Tumors : The species wise incidence of tumors observed in clinical cases presented at College hospital varied from 2 to 25 in numbers. Of the 33 cases attended, maximum (25) cases were of canine, followed by bovine and equine (3 each) and camelid (2). The canine tumors included mainly the

Gross appearance of Tumors



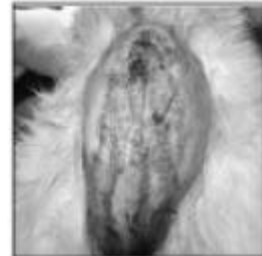
Abdominal tumor



Venereal tumor



Penile papilloma



Contagious venereal tumor



Lipoma



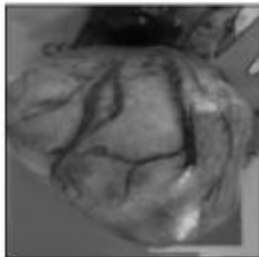
Tumor at mouth



Tumor at eye



Tail haemangioma



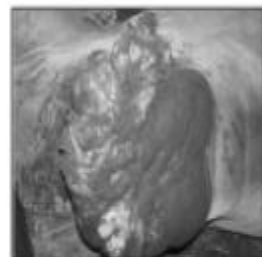
Seminoma



Sarcoid -Horse

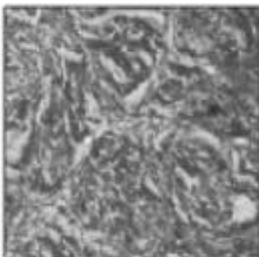


Hock Joint



Chest pad

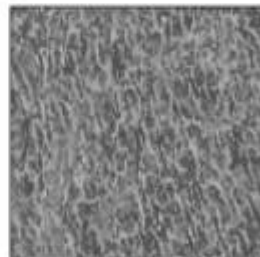
Histopathology of Tumors



Myoepithelioma



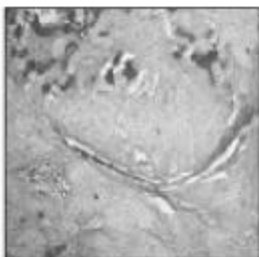
Fibroadenoma



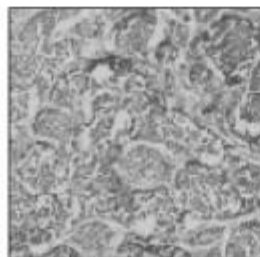
Histiocytoma



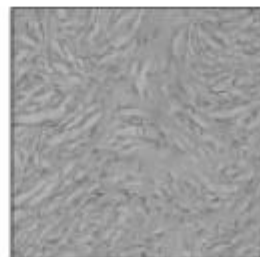
Osteoma



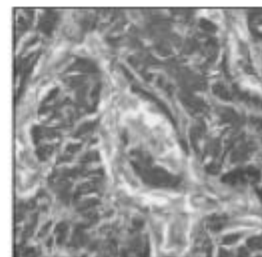
Osteo-chondr-fibro- adenoma



Seminoma



Leiomyoma



Basal cell carcinoma

mammary gland tumors of benign or malignant nature and of single or multiple type.

Different types of tumour recorded varied from 1 to 10 in number among 33 cases, and the maximum number was of fibroma (10), followed by squamous cell carcinoma and histiocytoma (4 each), basal cell carcinoma, hamangiopericytoma and fibrosarcoma (3 each), fibroadenoma (2), and liomyoma, seminoma, osteoma and myoepithelioma (1 each). Some of the features are depicted in photo plate.

Surgical Management

Patients were stabilized prior to surgery with fluid therapy and blood if necessary. Surgical removal of the tumor mass was then performed. Some patients required fluid therapy and intensive care. Complications that were associated with surgery included hemorrhage, cardiac arrhythmias, vomiting and infection, although the overall prognosis was good. The final diagnosis relied on histopathology of affected tissue. The treatment of external tumors has not varied much as to its removal surgically or killing it chemically, while it is still in the body. External growths are generally easier to treat by virtue of the fact that they can be seen, while internal tumors require diagnostic method like radiography, sonography etc. A grade I or II tumor that has been completely removed usually requires no other immediate therapy. A grade III tumor, multiple tumors, recurrent tumors, or tumors with dirty margins often require follow-up or "adjunct" therapy (Hornick, and Fletcher, 2003). Most of the animals recovered uneventfully following surgical extirpation of tumorous growths from different parts of the body. The pre- and post-operative coverage of antibiotics, fluid therapy, analgesics and haemostatics cured all the animals. No untoward sequelae was noted during the course of this study in different species of animals.

Histopathological Findings

The microscopic examination of tissue sections from various types of tumours from different animal species revealed classical lesions as described in the literature (Photo plate 1).

Tumors can be present in a wide variety of ways and can have an equally varied set of symptoms and outcomes (Moulton, 1961). As it is difficult to diagnose a tumor by visual inspection, it is important that all suspicious-looking tumors be examined followed up with diagnostic testing and identification (Bonagura and Kirk, 1995). Tumor treatment in animals poses a challenge to the veterinarian. Treatment consists of surgical removal, cryotherapy, and possibly chemotherapy (Ettinger and Feldman, 2000). As with all tumors, prompt recognition and treatment is very important in obtaining the best possible outcome. Cancer is the number one natural cause of death in older cats and dogs. It accounts for nearly 50 per cent of pet deaths each year (Moulton, 1961; Morrison, 2002). The tumors with tendency to recur usually remain a problem following treatment. Additionally, constant contamination, licking and irritation to this exposed vital part aggravates the complex pathology.

It can be inferred that canines are more prone to tumors of varying nature and mammary tumors in particular, which can be successfully managed surgically. However, further study using different chemotherapy need to be resorted to treat some of these types of cases for their noninvasive nature.

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