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Surgical treatment of unusual fibroma in a dog

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Abstract

A 5 year old Labrador dog was brought with the complaint of progressive development of a mass hanging at thoracic region. The mass was soft and painless on palpation and no blood or fluid were noticed on aspiration. Decision was taken to surgically remove the mass completely. Tissue sample was sent for histopathological examination and found to be fibroma. The animal showed uneventful recovery postoperatively.

Keywords: Labrador dog, fibroma, surgical management

Introduction

Fibromas are benign neoplasms which may originate from skin and subcutaneous connective tissue cells called fibroblasts. These tumours are typically solitary and seen more common on limbs, flanks and groin. They are slow growing and complete excision is curative (Goldschmidt and Hendrick, 2002) ^[1]. Fibromas may be firm or soft, pedunculated or non-pedunculated and may contain skin pigment melanin (Conroy, 1983) ^[2]. Histopathological examination of the mass is the only way for confirmatory diagnosis. Though fibroma and fibrosarcoma are represented by fibrocytes, microscopically the cells appear uniform in fibroma compared to the cells in fibrosarcoma which appear pleomorphic with numerous mitotic figures (Cowell *et al.*, 2007) ^[3].

Case history

A 5 year old Labrador dog was presented to the Department of Veterinary Surgery and Radiology, CVSc. & AH, OUAT, Bhubaneswar with the complaint of progressive development of a mass hanging at thoracic region (Fig. 1). On palpation, the mass was soft and pedunculated. Aspiration was done to rule out abscess or haematoma but no fluid or blood was noticed. Animal does not show any pain. The growth mass was superficial not exceeding into the thoracic cavity. There was ulceration of the mass causing bleeding. Complete surgical excision of growth mass was decided as treatment.

Treatment

The dog was anaesthetised with a mixture of xylaxine hydrochloride @ 1mg/kg body weight and ketamine hydrochloride @ 5mg/kg body weight intramuscularly in adjunct with premedication atropine sulphate @ 0.04mg/kg body weight. The animal was positioned on ventro-dorsal recumbency and the surgical area was made asepsis following standard aseptic procedure (Fig. 2). A circumferential incision was made around the base of tumour mass taking care of retaining sufficient skin for closure of skin edges. The tumour mass was separated from the underlying tissue and the blood vessels were carefully ligated. Then tumor mass was completely removed (Fig. 3). After complete removal, the subcutaneous tissue and skin were closed following standard procedure. Post-operative treatment includes Ceftriaxone @ 25mg/kg body weight IM and Meloxicam @ 0.3 mg/kg body weight IM, respectively. Owner was asked to short chain the dog for at least one week. Cut section of the mass was greyish white and was send for histopathological examination.

Result and Discussion

Optimum healing of a cutaneous wound requires a well-orchestrated integration of complex biological and molecular events (Das *et al.*, 2015) ^[4]. In the present case the sutures from the wound were removed after 14 days and there was complete epithelialisation without any complication. As fibromas are benign in nature, the tumour in dogs is less death defying once diagnosed and surgically excised compared to their malignant counterpart fibrosarcoma.

There are multiple factors which are responsible for causing tumors in dogs. Some of them are chemicals, solar radiation, viruses, hormonal abnormalities, genetic factors, chronic stress. The consequence is that when the homeostasis cannot be restored, the prolonged effect of stressors may induce an immune dysregulation modulated by the endocrine system leading to tumor formation (Cannas *et al.*, 2016; Sahu *et al.*, 2019; Satapathy *et al.*, 2022) [5, 6, 7]. Cytologic smears revealed sparse spindle shaped cells containing oval to elongated nuclei with indistinct cytoplasm suggestive of fibroma. On histology, there was proliferating fibroblast-like spindle cells which had oval middle-sized nuclei and fusiform slightly basophilic cytoplasm were seen in combination with collagen fibers and blood vessels (Fig. 4). Rajni (2005) [8] have reported similar cytologic features of fibroma in a study on skin tumours in dogs. Moulton (1990) [9] reported that cut section of fibroma appear gray to white with a glistening appearance compared to fibrosarcoma which has lobulated, homogenous, opaque and reddish brown haemorrhagic appearance.



Fig 1: Gross view of the pedunculated mass



Fig 2: Surgical preparation of the site



Fig 3: Completely excised tumour mass

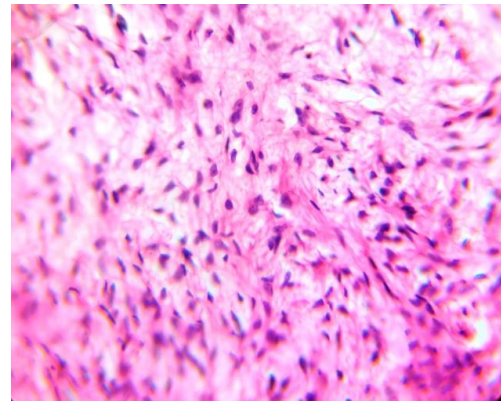


Fig 4: Photomicrograph showing proliferating fibroblast (H&E)

Reference

1. Goldschmidt MH, Hendrick MJ. Tumors of the skin and soft tissues. In: Tumors of Domestic Animals, 4th Edn, Iowa State Press, Iowa; c2002.
2. Conroy JD. Canine skin tumors. J. Am. Vet. Med. Assoc. 1983;19:91-114.
3. Cowell RL, Tyler RD, Meinkoth JH, DeNicola DB. Diagnostic cytology and hematology of the dog and cat. 2nd Edn, Elsevier Health Sciences; c2007. p. 20-51.
4. Das J, Nath I, Routray P, Das RK, Behera SS. Cell-based therapy and rehabilitation with prosthetic limbs in a dog. Turkish Journal of Veterinary & Animal Sciences. 2015;39(1):115-119.
5. Cannas S, Berteselli GV, Piotti P, Talamonti Z, Scaglia E, Stefanello D. Stress and cancer in dogs: Comparison between a population of dogs diagnosed with cancer and a control population-a pilot study. Macedonian Veterinary Review. 2016;39(2):201-208.
6. Sahu S, Mishra SR, Behera SS, Mishra C, Mohapatra S, Dalai N. Impact of heat challenge on expression dynamics of HSP90 in cardiac cells of goat. Biological Rhythm Research; c2019. p. 1-7. <https://doi.org/10.1080/09291016.2019.1672018>.
7. Satapathy PP, Mishra SR, Patnaik S, Behera SS, Mishra C, Kundu AK. Transcription pattern of key molecular chaperones in heat shocked caprine cardiac fibroblasts. Animal Biotechnology; c2022. p. 1-8. <https://doi.org/10.1080/10495398.2022.2043886>.
8. Rajni FK. Cytological, histological and immunohistochemical evaluation of skin tumours in canines. M.V.Sc., Thesis submitted to Tamil Nadu Veterinary and Animal science university, Chennai; c2005.
9. Moulton JE. Tumours in domestic animals. 3rd Edn. University of California Press, Berkeley; c1990.