Surgical Management of an Uncommon Cutaneous Myxoma in a Dog

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Abstract A 5 years old male Pomeranian dog was referred with a history of having tumor mass in the right front paw and occasional bleeding from the growth. On clinical examination, there was a firm, round, ulcerated and reddish mass found to be located in the palmar region of the right front paw. The tumor mass was successfully removed surgically and histopathological examination of the tumor mass confirmed as myxoma.

Keywords Cutaneous; Myxoma; Paw; Dog; Surgical Correction

1. Introduction

Myxoma is a rare tumor in domestic animals [1, 2] especially in dogs [3]. Myxomas arise from fibrocytes or other primitive mesenchymal cells that produce an abundant amount of extracellular matrix composed of mucin rather than collagen [4]. Myxoma can occur in a variety of locations including the heart, bones, subcutaneous and aponeurotic tissue, genitourinary tract, skeletal muscle and at any site where the connective tissue exists [5]. This is a record of a rare case of cutaneous myxoma in a dog and its successful surgical management.

2. Case History and Observations

A 5 years old male Pomeranian dog was referred with a history that the owner noticed a tumor like mass in the right front paw 2 months ago and since then the mass was gradually increasing in size. Anamnesis revealed that the animal showed normal feeding habits and there was an occasional bleeding from the growth when the paw hit on some hard objects while walking. On clinical examination, the growth was found to be located in the palmar region of the right front paw. The mass was firm, round, ulcerated and reddish (Figure 1). The area around the growth was soiled with raw blood and there was no similar lesion in other parts of the body. Animal showed little discomfort while walking due to the growth in the palmar region of the affected paw. The rectal temperature, heart rate,
pulse rate and respiratory rate of the dog were within the normal physiological limits. Radiograph of the chest region revealed no metastatic lesions in the lung. Blood and serum biochemical values of the dog were within the normal values. Based on the clinical and radiological examination the case was tentatively diagnosed as benign tumor. Since the animal was healthy with normal appetite, the surgical excision was decided and prepared for aseptic surgical correction.

![Image](image_url)

**Figure 1:** An Uncommon Cutaneous Myxoma in Palm Region of the Right Front Paw in a Dog

### 3. Treatment and Discussion

The dog was premedicated with atropine sulphate (Inj. Atropine sulphate, BAIF Labs Ltd, Maharashtra, India) @ 0.04 mg/kg body weight s/c and xylazine hydrochloride (Inj. Izine–Intas Pharmaceuticals Ltd., Ahmedabad, India) @ 1 mg/kg body weight i/m and general anaesthesia was induced with ketamine hydrochloride (Inj. Ketmin 50, Themis Medicare Ltd., Mumbai, India) @ 10mg/kg body weight i/m. An elliptical incision was made at the base of the tumor and bleeding vessels were ligated with 2-0 chromic catgut. The involvement of the tumor growth was found to be only with the skin. The growth was carefully excised and the skin was sutured by simple interrupted suture using silk. The tissue sample was preserved in 10% formal saline for histopathological examination. Post operatively the animal was given Ampicillin and Cloxacillin (AC-VET, Intas Pharmaceutical Ltd., Ahmedabad, India) @ 10mg/kg body weight intramuscularly twice daily for 5 days and daily dressing with povidone iodine solution (Pivipol solution, Ar Ex Laboratories Pvt. Ltd., Bombay, India). The sutures were removed on 10th post operative day and the animal recovered uneventfully. There was no recurrence during the follow up period of one year.

Macroscopically the excised mass was 2.5 x 2.5 x 2.0 cm in size and it was circular shaped with a rough surface. The growth was firm, slimy and non encapsulated. Cut surface of the mass was glossy with dark-brown viscous mucin and cystic cavitations. Histologically stellate to fusiform cells distributed in a vacuolated, basophilic, mucinous stroma containing few tiny blood vessels that was partitioned by collagenous connective tissue septae were seen. The cells were scattered appearing singly or in small clusters. The cell nucleus was round, ovoid and elongated with multiple nucleoli (Figure 2). Based on the histopathological examination the case was diagnosed as myxoma.

Myxoma is, as general, a soft tissue tumor [6]. Myxomas are extremely rare neoplasms of the dogs and cats arising from dermal or subcutaneous fibroblasts [7, 8]. Etiologies of these tumors are unknown [5].
Genetics, environmental factors, carcinogenic drugs or miscellaneous toxic substances are reported to be a causative factor for these neoplasms [9]. Myxoma is mostly seen in adult or elderly animals and although there is no sex predilection, it is supposed that Doberman pincher and German shepherd dogs have a racial predisposition [8]. But the present case was a five years old male Pomeranian. Myxomas occur more frequently on the limbs, the back or the groin [10]. In our case, the tumor was on the palmar region of the paw which is a very rare location in respect to literature.

Although, it is reported to be a fibroma by some researchers because it is derived from fibroblasts, cutaneous myxoma is differentiated from fibromas with its extensive intercellular mucine accumulation [11]. In our case, the lesion's content was dark-brown viscous mucin. Dark-brown colour is due to continuous haemorrhage into the tumor which is highly vascularized [12]. Cutaneous myxomas are generally benign in character [1, 8] and may be locally infiltrative or invasive [13]. Treatment of choice for cutaneous myxoma is radical surgical excision and no recurrence is expected after total surgical excision [3]. Cutaneous myxomas are reported to have 20-25% local recurrence rate when excision of the tumor is incomplete [4, 5]. In the present case there was no recurrence even after one year of surgery due to complete surgical excision.

Figure 2: Histopathological Appearance of Cutaneous Myxoma

Summary

Myxomas are rare tumours of fibroblastic origin, characterized by a large amount of mucin in the intercellular matrix. These benign neoplasms may occur at any site at which there is connective tissue. This paper describes a cutaneous myxoma in the right front paw of a 5 years old male Pomeranian dog. The tumour was excised surgically and no recurrence was detected during the follow up period of one year.

References


