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## Basal cell carcinoma and it's successful surgical management in two dogs

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### Abstract

A 10 year old female Spitz dog with a tumour on the right fore limb and a 6 year old male Labrador retriever dog with a growth on the fore head were presented to the Veterinary Clinical Complex with decreased appetite. The vital signs were in normal range. The tumours were slow growing over a period of two months. The tumours were excised under general anaesthesia. Histopathology confirmed that the tumours were basal cell carcinomas. No metastasis was observed. The dogs recovered uneventfully.

**Keywords:** Basal cell carcinoma, dogs

### Introduction

Skin is the most common site of cancer occurrence in dogs [1, 2, 3, 4]. Epidermal tumours are the tenth most common cutaneous tumours in dogs. Basal cell carcinoma is a malignant tumour of the basal cells which can spread to adjacent tissues with rare or low metastasis. Basal cell carcinomas are frequently seen in dogs than in cats. They may be flattened or raised from the skin surface and are usually ulcerated. Their distribution is multicentric on the dog's body and were often found in the fore limb, head and facial region [5, 6, 7]. These tumors commonly seen in older dogs [7, 10] and account for 5-10% of all canine tumours [7, 8, 9, 10, 11, 14]. Surgical removal is the choice of treatment for these tumours. Short hair, lower skin pigmentation and glabrous areas makes the dogs susceptible to higher UV exposure leading to radiation injury which may result in in to the neoplasia [10, 11]. This paper presents a successful surgical management of two cases of basal cell carcinoma on the forelimb of a spitz dog and on the head of a Labrador retriever.

### Materials and Methods

One female unspayed Spitz and intact male Labrador retriever dogs of 10 years and 6 years old weighing 12 Kg and 25 Kg respectively were presented to the Veterinary Clinical Complex, College of Veterinary Science, P. V. Narsimha Rao Telangana Veterinary University (PVNRTVU), Hyderabad, with a history of a growth on the caudal aspect of the carpal region of the right forelimb (Fig.1) and on the forehead respectively (Fig.2). They had decreased appetite and were dull. The vital signs were within the normal range. The tumour on the carpal area was a slowly growing soft mass and ulcerated over a period of 2 months. The tumour on the forehead was a solitary and well circumscribed mass which developed as a small bump on the forehead and it increased in size and ulcerated within three months. The Fine Needle Aspiration Cytology of the tumours confirmed that the tumours were basal cell carcinomas. The tumours were excised under general anaesthesia, induced with xylazine and ketamine at a dose rate of 1mg per kg body weight and 5 mg per kg body weight respectively under atropine sulphate premedication at a dose rate of 0.04 mg per kg body weight. Anaesthesia was maintained with propofol at a dose rate of 4 mg per kg body weight as CRI. An elliptical incision was taken around the tumours after aseptic preparation of the site of operation and bluntly dissected and separated from the underlying tissues. The tumours have not infiltrated into the underlying structures but the entire skin thickness was involved (Fig. 4). After ligation of the bleeding vessels, the subcutaneous layer was closed using 1-0 polyglactin 910 with continuous subcuticular suture pattern and the skin incision was closed using horizontal mattress sutures and simple interrupted sutures wherever necessary (Fig.5). The dogs were given Inj. Ceftriaxone sodium @ 25 mg per kg body weight for 7 days and Inj. Meloxicam @ 0.2 mg per kg body weight for 3 days.

Daily antiseptic dressing was done up to 5 days then on alternate days up to 10th postoperative day. The skin sutures were removed on 10th postoperative day.

**Results and Discussion**

The dogs showed uneventful recovery. The histopathology of the excised tumours revealed that the tumours were basal cell carcinomas (Fig.6 and 7). The dogs were monitored for three

months post-surgery period in which there were no signs of metastasis. The basal cell carcinoma rarely shows metastasis. The affected dogs were older dogs [7, 8, 9, 10, 11, 12]. Mixed breed and Labrador retriever dogs were the most common breeds get affected by these tumours [12]. As an extensive organ, skin is exposed to a wide range oncogenic factors among which ultraviolet rays may be the cause for the occurrence of basal cell carcinomas in these two dogs [1, 2, 10, 11].



**Fig 1:** BCC in a Spitz dog



**Fig 2:** BCC in a Labrador retriever



**Fig 3:** Tumour excised from the fore limb in a Spitz

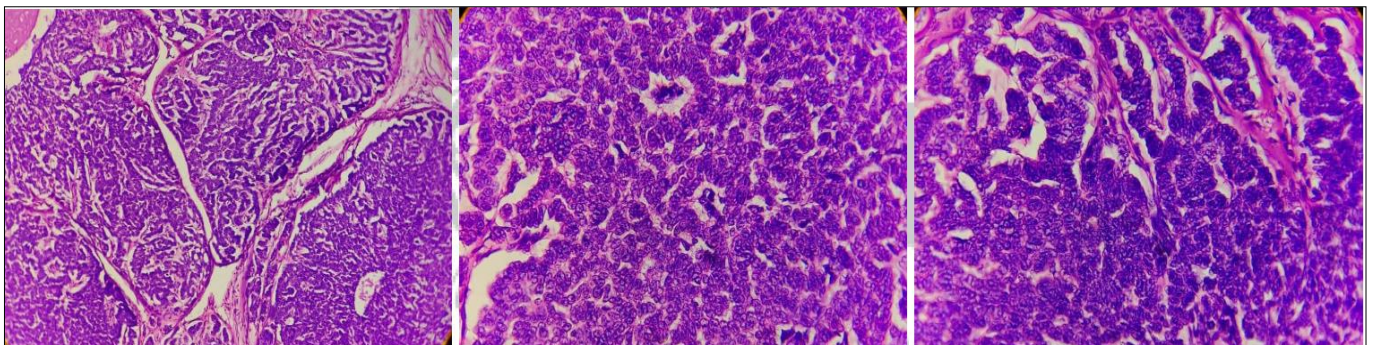




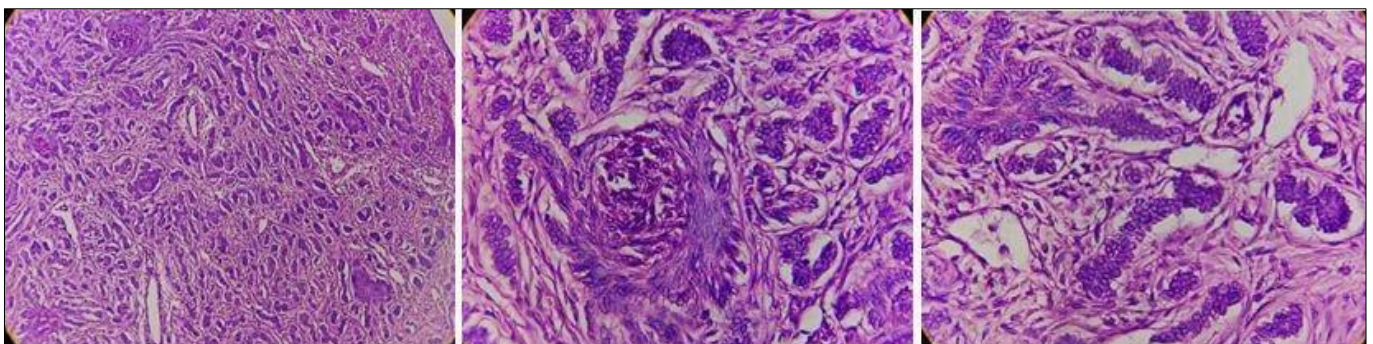
**Fig 4:** Intraoperative appearance of tumour on the head of a Labrador and the excised mass



**Fig 5:** Skin sutures applied



**Fig 6:** Histopathological examination of the Spitz dog revealed proliferation of small round to polyhedral basophilic cells with hyperchromatic nuclei and indistinct cytoplasm, occasionally forming pseudoglandular structures. The neoplastic basal cells exhibited pleomorphism and few mitotic figures. Histopathologically the biopsy was diagnosed as "Basal cell carcinoma".



**Fig 7:** Histopathological examination of the Labrador retriever dog revealed numerous small basaloid nests containing small round to polyhedral basophilic cells with hyperchromatic nuclei and indistinct cytoplasm. The neoplastic basal cells exhibit pleomorphism and few mitotic figures. Histopathologically the biopsy was diagnosed as "basal cell carcinoma".

**Conclusion**

The successful surgical management of basal cell carcinomas in two dogs reported and discussed.

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