

## Surgical Management of Basal Cell Carcinoma (BCC) in a Dog

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### Abstract

A male spitz dog was presented with history of swelling on neck region for past three months. Clinical examination revealed ulcerated, solitary and encapsulated mass measuring about 4.5 cm attached to skin by a stalk on left lateral aspect of neck. Fine needle aspiration biopsy diagnosed the mass as basal cell carcinoma. The tumor mass was surgically excised under general anaesthesia. Histopathological examination of excised mass confirmed as basal cell carcinoma. The patient recovered uneventfully.

**Keywords:** Basal cell carcinoma; cytology; dog; pathology

### Introduction

Basal cell carcinoma (BCC) is caused by malignancy of epithelial cells located in deep epidermal layer of skin. They are less common in dogs than cats. Basal cell carcinomas generally occur in middle aged and older dogs. These tumors are found most commonly on head (especially ears), neck and fore limbs (Goldschmidt and Hendricks, 2002). The present paper reports on surgical excision of basal cell carcinoma in a dog.

### History and Diagnosis

A three years old male spitz dog was presented with history of mass in neck region for past three months and growing continuously. Clinical examination revealed firm, solitary, encapsulated mass measuring about 4.5 cm attached to skin by stalk on left lateral aspect of neck below the angle of jaw (Fig. 1). Fine needle aspiration biopsy was performed. The smear was stained with Leishman and Giemsa (L&G). The cytological examination revealed tight clusters of small uniform cells with hyperchromatic nuclei, scanty cytoplasm, high nuclear cytoplasmic ratio and indistinguishable cell border. The nuclei was round to ovoid and mitotic figures were also seen. Radiographic examination of thorax revealed no evidence of metastasis. The hematobiochemical values were within the normal range. The case was diagnosed as basal cell carcinoma and advised for surgical excision of tumor.

### Treatment

The dog was premedicated with Atropine sulphate @ 0.02 mg/ kg b.wt. and Xylazine @ 1mg/ kg b.wt. Under Ketamine general anaesthesia @ 5 mg/ kg b. wt. I/V and Diazepam @ 0.5 mg/ kg b.wt. I/V were given and surgical site was prepared aseptically. Pre-operative antibiotic, inj Ceftriaxone (Intacef<sup>a</sup>) @ 20 mg/ kg b.wt. and Meloxicam (Melonex<sup>a</sup>) @ 0.3 mg/ kg b.wt. were given. An elliptical skin incision was made at base around the mass, subcutaneous tissue exteriorized and blood vessels were ligated. Tumor mass was excised. Subcutaneous tissue sutured by using PGA 1 and skin sutured in a simple interrupted pattern.



Fig. 1: Ulcerated tumor mass

Post-operatively, oral antibiotic Cephalexin for 5 days and Tremadol for 3 days @ 2 mg/ kg b.wt. was advised. To prevent scratching of surgical site with paws, Elizabethian collar was advised. Alternate day dressing of surgical site was done. Wound healing was good. Sutures were removed on 10<sup>th</sup> post-operative day (Fig. 2). The excised tumor was fixed

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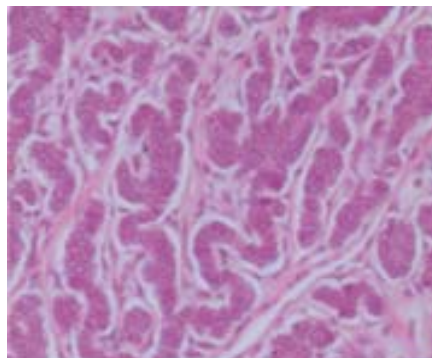
Fig. 2: 10<sup>th</sup> Post-operative day

Fig. 3: Basal cell carcinoma-ribbon like pattern (H&amp;E 20µm)

in 10 percent formalin. Formalin fixed samples were processed and paraffin embedded sections were cut into 4 µm thickness and stained with Hematoxylin and Eosin (H&E). Histologically, the tumor revealed ribbon type of neoplastic cell arrangement with locust stroma between cords of cells. The nuclei were round to ovoid, hyperchromatic and nucleoli were inconspicuous. Mitotic figures were also seen (Fig. 3). Histologically, the tumor was confirmed as basal cell carcinoma.

#### Discussion

Basal cell carcinoma of skin was common in dogs representing 5-10% of skin neoplasms (Pulley and Stannard, 1990). Seiler (1981) reported that basal cell carcinomas were believed to be arisen from pluripotent or primary germ cells of skin.

Conroy (1983) reported that there was no sex predilection but had site predilection for head, neck and shoulder and rarely occurred in abdomen, back and hind limbs is in agreement with our case recorded in neck region. Bostock (1986) reported that grossly the tumor appeared as solitary, well circumscribed, spherical and dome shaped, occasionally ulcerated but freely movable over underlying tissues. In the present case, tumor was about 4.5 cm in diameter, ulcerated, solitary, circumscribed and spherical.

Histological pattern of basal cell carcinoma is in agreement with earlier worker (Srinivasan *et al.*,

2015) who reported that ribbon pattern of neoplastic cells present in BCC seen on forehead of Spitz dog. Anderson and Scott (1989) reported that BCC has been considered to be benign but had recurrence without metastasis is in accordance with present case had no metastasis.

The overall prognosis for dogs with basal cell tumor is good. In fact, many are completely cured once the tumor is surgically excised. In the present case, there was no recurrence of tumor after 6 month post-operative review.

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