

A Case Report of Basal Cell Carcinoma in Dog

Dr. Betala Baby Manasa^{*1}, Dr. Valeti Samatha², Dr. G. Sujani³, Dr. Paila Suresh⁴, Dr. K. Srinivas⁵

¹Assistant Professor, Dept. of Veterinary Clinical Complex, NTR College of Veterinary Science, Gannavaram, Andhra Pradesh, India

²Assistant Professor, Dept. of Veterinary Pathology, NTR College of veterinary science, Gannavaram, Andhra Pradesh, India

³Assistant Director (AH) Veterinary Biological Research institute, Vijayawada, Andhra Pradesh, India

⁴Veterinary Assistant surgeon, Veterinary Biological Research institute, Vijayawada, Andhra Pradesh, India

⁵Assistant Director (AH), VSSH (Veterinary Super Speciality Hospital), Vijayawada, Andhra Pradesh, India

Case Report

*Corresponding author

Dr. Betala Baby Manasa

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Abstract: A 4 years old dog was presented with ulcerated hard mass on dorsal cervical region. Surgically excised mass was collected for histopathological examination in 10% formalin. The section revealed the presence of neoplastic basaloid cells extended from the epidermis extended in to the dermis. The neoplastic cells showed hyperchromatic nuclei or vacuolated nuclei with scanty cytoplasm with anisocytosis and anisokaryosis. Islands of neoplastic cells were lined with palisading basaloid cells. Based on the histopathological examination the case was diagnosed as Basal cell carcinoma.

Key words: anisocytosis, epithelial neoplasm, adnexal differentiation.

INTRODUCTION

Basal cell neoplasms are epithelial neoplasms which show no epidermal or adnexal differentiation. The neoplastic cells morphologically resemble the normal basal cells of the epidermis [1]. Basal Cell Tumors are the most common type of skin tumor in the cat and uncommon in the dog [2]. Basal cell carcinoma is the low grade malignant epithelial tumor arising from basal cells of either the interfollicular epidermis or the hair follicles and may represent a neoplastic transformation of stem cells [3-5]. It is common in the cat, uncommon in the dog and rare in all other domestic animals. The tumor cells are unable to invade and destroy the surrounding tissue unlike those seen in the dog and cat, which are found in the thorax, head and neck [6]. In this present paper a case of nodular Basal cell carcinoma was reported.

CASE REPORT

A 4 years dog was presented with ulcerated hard mass on the dorsal cervical region with symptoms of anorexia and emasciation. Impression smears were collected from the tumor mass and subjected for Leishman's staining. Surgically excised mass was collected in 10% formalin embedded in paraffin and stained with Haematoxylin and eosin (H & E) method.

RESULTS AND DISCUSSION

Grossly the subcutaneous tumor mass was about 4 to 5 cm in size with ulceration on the dorsal cervical region. Cytological examination of impression smear revealed the presence of group of cells with prominent large nucleus and multiple nucleoli suggestive of epithelial cell tumor (Figure-1). These findings were in accordance with the previous reports. On histopathological examination the section revealed focal ulceration of epidermis with the underlying multifocal proliferative basal cells extending in to the dermis arranged in solid islands or lobules of various

sizes surrounded by dense stroma with numerous fibroblasts. (Figure-2). Infiltration of mononuclear cells was observed in the stroma. Islands of neoplastic cells lined with palisading arrangement of basal cells and in the middle cells were chaotic. (Figure-3). Areas of necrosis were observed, centre of lobes showed necrosis. Empty peritumoral clefts due to retraction of stroma are present which separates tumor cells from surrounding stroma. (Figure-4). The neoplastic cells showed hyper chromatic nuclei with scanty cytoplasm. Pleomorphic nuclei and at few areas multiple nuclei with the presence of nucleoli was observed. Mitosis was moderate, few mitotic figures were observed. These histological findings were in consistent with the previous reports [7, 8]. Srinivasa *et al.* [7] described different histopathological variants of basal cell carcinomas in dogs. Ahmed *et al.* [8] described a solid pattern of BCC situated locally in skin of a Newzealand white rabbit. Histologically he described the palisading neoplastic basaloid cells showing solid, uniform with hyperchromatic and or vacuolated in appearance formed

islands with abundant eosinophilic homogeneous ground substances.

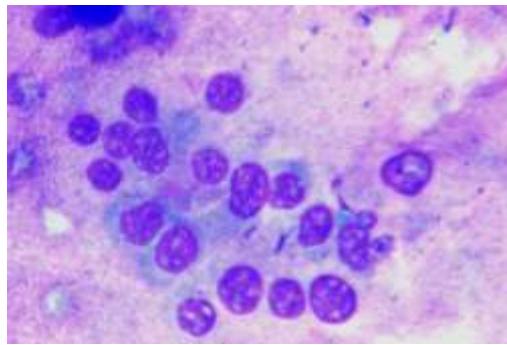


Figure-1: Impression smear showing the presence of cluster of cells with hyperchromatic nucleus and prominent nucleoli. 1000X

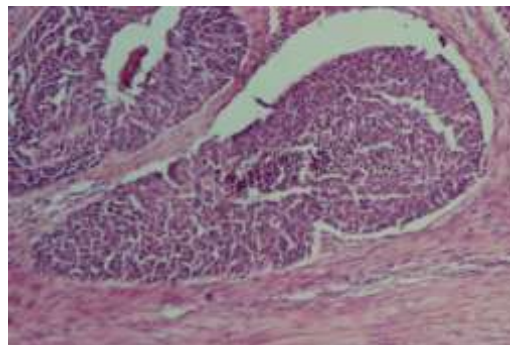


Figure-2: Section showing proliferative basal cells arranged in solid islands surrounded by dense stroma with numerous fibroblasts. H&E 100X

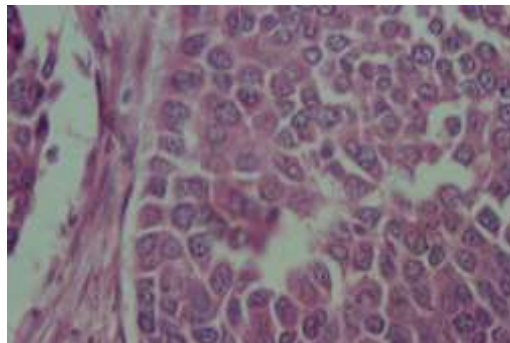


Fig-3: Section showing palisading arrangement of basal cells at the periphery. H&E 400X

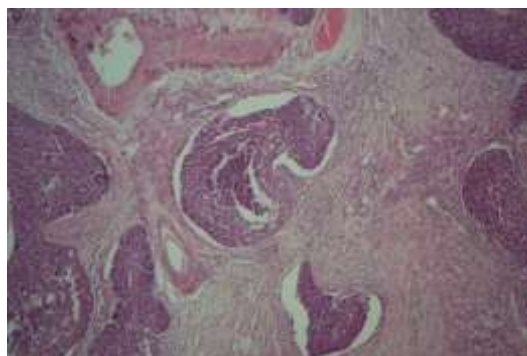


Fig-4: section showing peritumoral clefts separating tumor cells from surrounding stroma. H&E 40X

CONCLUSION

Based on these cytological and histopathological findings the present case was diagnosed as nodular basal cell carcinoma. Basal cell carcinomas are relatively common adnexal tumors of dog skin characterized by malignant transformation of epithelial basal cells. The prognosis of the tumor is good if it is promptly treated with surgical excision.

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