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## Malignant melanoma of ear pinna in HFx breed cattle: A case report

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### Abstract

Malignant melanoma is uncommon tumour of melanin pigment. In present study a five years old female HFx breed cattle was presented with large sized pedunculated growth located at base of left ear. Tumorous mass was excised under sedation in addition to local infiltration. Biopsy of excised masses submitted for histopathological examination, which revealed malignant melanoma. Sutures were removed after twelve days however after 4 months reoccurrence observed at same site.

**Keywords:** Cattle, ear, malignant melanoma, melanin, tumour, white

### Introduction

Melanoma was a tumour made up of melanoblasts, pigment-producing cells found in the basal layer of the epidermis that produces melanin. The term melanoma used for malignant melanocytic tumours, whereas term melanocytoma used for benign origin (Smith *et al.* 2002) [8]. In bovines neoplasma, melanomas represent about 5% of tumour cases, and 92% of them were benign in origin and most commonly occurs in the skin (Baba and Catoi, 2007) [1]. Melanomas were typically found in dark-coloured cattle and buffaloes in India (Kumar, 2020) [3]. Miller and his colleagues, 1995 [4] stated that these tumours might appear as pedunculate growth and have no preferred site (trunk, limbs, jaws, abdomen and neck).

### Case history

A five years old female HFx breed cattle was presented to the department of Veterinary Surgery and Radiology, Kamdhenu university, Anand with history of large sized pedunculated growth located at base of left ear since three months (Figure 1) and size was gradually increased in size. Clinical examination revealed hairless, black coloured tumour mass located at cranial border or tragus part of left ear. On palpation tumour was non-painful and hard in consistency and fine needle aspiration revealed blood tinged scanty fluid.

### Surgical management

The cow was restrained in lateral recumbency with affected ear on upper side on hydraulic operation table under sedation of xylazine hydrochloride @ 0.1 mg/kg body weight intramuscularly. The surgical site was prepared aseptically and inj. lignocaine hydrochloride 2% infiltrated locally around the base of growth. The elliptical incision placed surrounding tumour base using electrocautery and mass was excised (1.702 kilogram) and vessels were ligated using Vicryl 2-0. Skin flaps were sutured by simple interrupted suture using non-absorbable suture material. Excised tumours mass was heavily shaded with black coloured pigmentation (Figure 2). Routine post operative treatment includes antibiotic, analgesics and anti-inflammatory were administered for 5 days, while dressing at surgical site was advised till complete healing.

Tumour mass was excised in small pieces and submitted in 10 percent neutral buffered formalin for histopathological processing.

## Results

Complete healing of skin incision was observed after 12 days and no any complication was observed till 120 post-operative days, but gradually reoccurrence was observed at same site after 120 days (Figure 3).

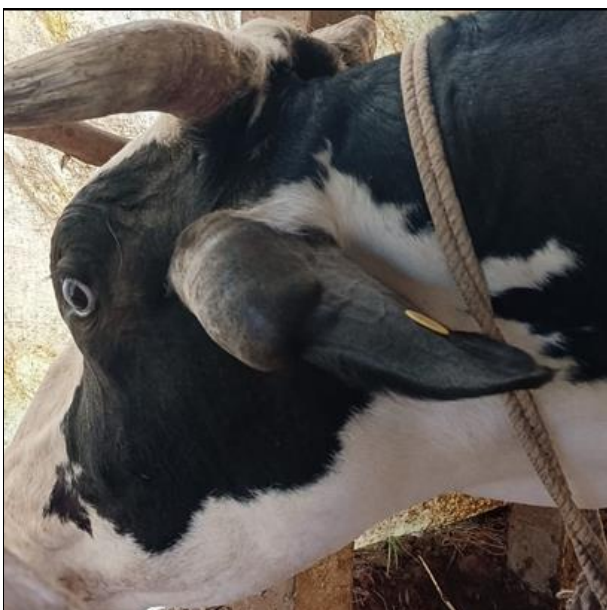
Histopathological section shows atypical melanocytes and abundant eosinophilic cytoplasm with nuclear pleomorphism and containing spindle shaped cells with black melanin pigment which was confirmed malignant melanoma (Figure 4).



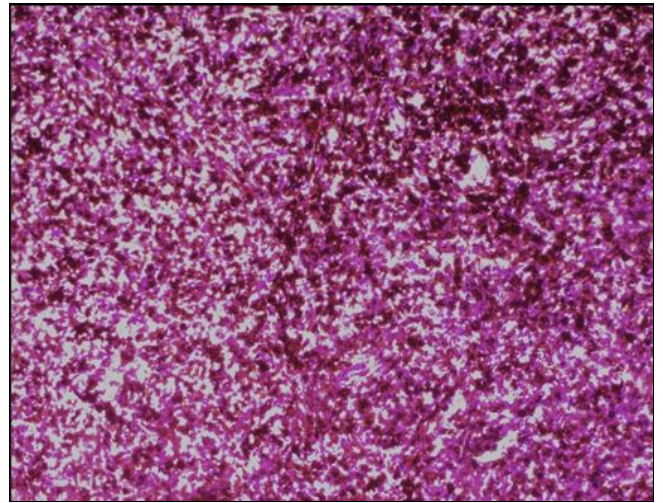
**Fig 1:** Large sized pedunculated growth located at base of left ear



**Fig 2:** Gross image of tumours mass after surgical excision



**Fig 3:** Local reoccurrence of tumour at same site after 4 months



**Fig 4:** Histological section showing spindle shaped cells with melanin pigment and mitotic figures, H&E x100

## Discussion

Ruminant melanocytic tumour affected most commonly at limb (Babic *et al.*, 2009; Nair *et al.*, 1990) <sup>[2, 5]</sup> but tumour may occurred at numerous sites such as the trunk, neck, jaw (Miller *et al.*, 1995) <sup>[4]</sup>. According to clinical observation site of tumour was base of left ear in present study. Generally, melanoma mostly reported in aged cattle (Pully and Stannard, 1990) <sup>[6]</sup> and also occurred congenital in young cattle calf (Babic *et al.*, 2009; Miller *et al.*, 1995) <sup>[2, 4]</sup>. Melanoma predominantly found in red, grey and black coloured cattle (Miller *et al.*, 1995) <sup>[4]</sup> or dark coloured cattle in India (Kumar *et al.* 2020) <sup>[3]</sup>. Present finding matched with Miller *et al.*, (1995) <sup>[4]</sup>; where they reported colour at site of tumour was black, white and grey. Recurrence of tumour was recorded at same side after 4 months and present finding was favoured by Smith *et al.* (2002) <sup>[8]</sup>; where they stated that melanomas were locally aggressive in nature.

## Conclusion

In present case report malignant melanoma tumour in HFx cattle was removed surgically and reoccurrence of tumours mass was observed at the same site.

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