Benign melanocytoma in a non-descript cow: A case report

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ABSTRACT
The present paper reports a case of benign melanocytoma in an 8-years old non-descript cow, which are reported less commonly in India. The tumour was located on ventral aspect of neck and was surgically removed with successful recovery. Histopathological expression of the tumour suggests its benign nature which is also confirmed by its non-recurrence after 2 years of its surgical removal.

Key words: Cattle, Histopathology, Melanocytoma.

Melanoma occur in all domestic animals and most frequently in horses and are considered rare in cattle as compared to horses, dogs and small ruminants (Arif et al., 2014). There are reports of melanocytic tumors in cattle which accounts for 5-6% of all tumors (Sharma et al., 2010). Breed, site and gender predilection are not apparent but they are more common in dark skinned animals (red, gray or black) (Yeruham and Perl, 2002). Melanomas were also observed in nondescript cattle. (Reddy et al., 1998; Rao, 2004). Melanomas in cattle are reported in India less frequently. The present case reports benign melanocytoma on ventral portion of neck in cattle.

Case History
An indigenous 8 years old local breed of cow was brought to veterinary clinic in Bilaspur with a complaint of a mass hanging from ventral portion of neck (Fig. 1). The mass was measured to be about 12 inches x 8 inches. The animal was weak and off-feed.

Treatment and Discussion
Clinical examination revealed the respiration, pulse and heart rate to be within physiological limits. Complete blood count showed Haemoglobin- 12 g%, TEC- 6.12x10⁶/µl and TLC- 5.25x10³/µl. Animal was sedated with Xylazine HCl @ 0.1 mg/kg B.Wt. Intramuscularly. Animal was prepared for aseptic surgery at mid ventral region of neck and casted on right lateral recumbency. Analgesia was achieved with local infiltration of 2% lignocaine HCl at the adjoining area. Skin of healthy area at the base of the tumour was incised and by blunt dissection muscles were separated at the base without causing any injury to the jugular furrow. The healthy tissue at the base was checked for blood supply and ligated with polyamide No. 2 thread. The tumour was removed and the stump was again checked for haemorrhage and cauterized with silver nitrate. Muscles were sutured with polyamide No.1 in continuous pattern and skin was apposed by interrupted sutures using same thread (Tyagi and Singh, 2008).

The complete cross section of mass revealed it to be soft and pigmented. In histopathological examination, the tumour mass revealed proliferation of melanoblasts with clumps of brownish-black pigment granules present within melanoblasts (Fig. 2) (Smith et al., 2002). Irregularly round, spindle shaped cells closely packed with cytoplasmic granules seen with obscure nuclei. Pigment localization was also seen in basal layers of epidermis. Loose connective tissue was visualized in sub-epidermal region. The mitotic

Fig 1: Tumor mass hanging on ventral portion of neck

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figures and hyperchromatic cells were not visible indicating the tumour to be benign melanoma. Diffuse and irregularly arranged collagen fibres seen especially in central portion of the tumour mass. Collagen fibres were arranged parallel to each other (normal pattern) at dermal region of the growth. The histopathological observation suggests the tumour to be classified as benign melanocytoma.

Some reviews suggest occurrence of melanomas in cows and goats is secondary to mutations induced by ultraviolet solar radiation (Smith et al., 2002). Places exposed to continuous friction/trauma, advancement of age and constant exposure to hot sun while doing work (Mouli, 1987) or grazing (Murty et al., 1995) may be predisposing factors for the development of melanomas. Melanocytic tumors have been reported in aged cattle but have occurred more commonly in cattle under 2 years of age and have been congenital in several cases. Our case reports this tumour in old cattle. Most reported melanocytic tumors have occurred on a limb, but the tumor could also occur at numerous sites on the trunk, neck and head (Miller et al., 1995). The present case reports melanoma in neck region. Benign nature of the tumour is also confirmed by its non-recurrence after 2 years of its surgical removal.

Fig 2: Melanocytes proliferation, cells packed with melanin pigment (H & E, 400x).

REFERENCES


