Successful surgical management of squamous cell carcinoma of horn in cattle: Case report

Akshay Goud, Anjan Kumar Sahoo, Lavanya Killi, Ritun Patra, Himanshu Sekhar Behera and MD Umar

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Abstract

Horn cancer commonly occurs in Zebu bullock, less commonly in cows and rarely in bulls. Cancer may be benign such as fibroma or malignant type as squamous cell carcinoma reported by many authors [1, 7]. This type of cancer is mostly unilateral affecting cattle of young age groups i.e., 5-10 years [3, 4]. The condition arises due to chronic irritation at horn base with animals rubbing against hard surfaces. Many predisposing factors are associated with it such as chronic irritation, painting of horn, solar radiation, genetic predisposition and sex hormone [5, 6, 7]. Post operative adjuvant chemotherapy using Vincristine are also in use in complicated horn cancer for recovery [8, 9].

The present case describes successful surgical management of horn cancer in a zebu bullock and surgery along with vincristine injection in a Gir cow.

Case history and presentation

A Gir cow, 400Kg, 7 year of age was presented with softening of horn base, since 3 months along with discharge from horn base and intermittent shaking of the affected horn. Subsequently bending of the horn and tilting of the head to the affected side occurs. Clinical examination showed spongy and cauliflower like growth with foul smelled discharge from the horn base. Based on history and clinical examination a tentative diagnosis of horn cancer was obtained and animal was scheduled for surgery.

Treatment

Animal was fasted for 24 hours and surgical site was thoroughly cleaned, prepared for aseptic surgery. Preanesthetic Xylazine @ 0.025mg/kg and ketamine @ 5mg/kg was administered with intravenous fluid therapy maintained during the surgery. In addition to general anaesthesia, cornual nerve block was performed with 10ml 2% Xylocaine parallel to the frontal crest so as to desensitize the nerve and achieve complete analgesia. Surgical excision and separation of horn from the base was progressed through flap method as described earlier [10, 11]. Cytology of the sample collected was performed and confirmed to be squamous cell carcinoma (Fig.1). Post operative care of the patient include intravenous Amoxycillin – sulbactam 4.5gm injection @ 10 mg/kg twice daily for 5 days and intramuscular analgesics injection flunixin meglumine @ 2.2 mg/kg once daily for at least 3 days. Fibrinolytic enzymes such as Inflawin forte bolus @ 2 bolus orally daily for 5 days was also added to the schedule. Daily wound dressing with povidone iodine 0.1% and local application of glycerine (100gm)
plus paraxin capsule (3 no.) granules and haldi gm mixture was continued till the suture removal. After suture removal, Vincristine @ 1ml/ 50 kg body weight intravenously at 21 days interval was administered 3 times for complete recovery from the cancer. There was complete. Recovery for 1 year and the death was recorded after one year through telephonic conversation.

Case-II
A zebu bullock, 300 kg, 8 years was presented to Department of Veterinary Surgery and Radiology with complaint of spongy growth on left horn base. On clinical examination, there was discharge of foul-smelling pus from horn base and softening of affected horn.

Treatment
The animal was fasted for 24 hours and routine surgical preparation of the site was done. In this case, only local infiltration along with cornual nerve block was done and analgesic flunixin meglumine @ 2.2 mg/kg intramuscularly was administered prior to surgery. Flap method of skin separation and surgical excision were performed as described earlier (Fig.2). Post operative antibiotic and analgesic were given as prescribed earlier and suture was removed on 14th day. The bullock recovered uneventfully.

Conclusion
Squamous cell carcinoma of the horn is common occurrence in bullock and less common in Gir cow and rare in bullock as reported in earlier and present literature.[12, 13]. Adjuvant chemotherapy should be practiced in instances of complication arising after surgery. In those cases, milk of the cow should be withdrawn for human consumption. The author suggests further research on milk withdrawal period after vincristine administration in lactating cows.

References