ABSTRACT

Horn is the cornual process whose interior consists of irregular spaces that are actual continuation of frontal sinus of frontal bone. Squamous cell carcinoma was the most commonly seen neoplasm of great economic importance affecting the horn. The most consistent clinical signs are rubbing of affected site to hard objects, frequent head shaking, bruxism, reduced feed intake tilting at affected side, bending of affected horn, foul smelling purulent and increase purulent discharges from nostrils on affected side in advance cases. The surgery horn amputation by flap method was performed in lateral recumbency under cornual nerve block and local infiltration of 2% lignocaine hydrochloride. Followed by chemotherapy using Vincristine sulphate (0.025 mg/kg intravenously) thrice at the interval of 7 days alog with supportive therapy.

INTRODUCTION

Squamous cell carcinoma was the most commonly seen neoplasm of great economic importance affecting the horn and eye (Panchabhai *et al,* 1987; Jubb *et al,* 1993; Shukla *et al,* 1993 and Sastry and Rao, 2001). Horn is the cornual process whose interior consists of irregular spaces that are actual continuation of frontal sinus of frontal bone (Singh and Kumar, 1993). The horn is prone to various types of affections like avulsion, fracture, overgrowth, sepsis, fissures and cancer (Rama Rao *et al.,* 2014). Among them, horn cancer is encountered in cattle within age group of 5-10 years and is generally unilateral (Tyagi and Singh, 2006). Horn cancer is a widely prevalent disease in India affecting one per cent of bovine population (Udharwar *et al,* 2008) causing huge economic losses due to reduced draught capacity as a result of prolonged morbidity and mortality (Somavanshi, 1991). The most consistent clinical signs are rubbing of affected site to hard objects, frequent head shaking, bruxism, reduced feed intake tilting at affected side, bending of affected horn, foul smelling purulent and increase purulent discharges from nostrils on affected side in advance cases (Joshi *et al.,* 2009). Exact etiology of horn cancer is not yet clearly understood. Intrinsic factors such as genetic predisposition including breed, age and sex, and extrinsic factors such as trauma, paints, solar radiation, constant friction of yoke near base of horn have been suspected to cause horn cancer. Although the origin has not been determined, it is claimed that neoplasm arises from mucous membrane of horn core sinus and then invades horn core (Zubaidy, 1976). Horn cancer can be diagnosed by specific history, typical clinical appearance of horn and percussion. Radiological examination is helpful for confirmatory diagnosis of horn cancer in suspected cases.

HISTORY AND DIAGNOSIS

Two male cattle were presented to the Veterinary Clinical Complex, college of veterinary and animal science, Navania, Vallabhnagar, Udaipur, Rajasthan having the history of gradual swelling and bending of the horn and with foul smelling, purulent discharge from the base of horn. On clinical examination of affected horn, there was pulpy swelling at the base of horn and loose at the base there were pink soft cauliflowers like growths which were friable and bleed easily. Simultaneously open frontal sinusitis was also seen. On palpation animal tries to evade the side of affected area. Based on the history and clinical examination, a tentative diagnosis of the growth was made as horn cancer.

SURGICAL TREATMENT

Animals were kept off fed for 24 hours prior to surgery. The surgery horn amputation was performed in lateral recumbency under cornual nerve block and local infiltration of 2% lignocaine hydrochloride with affected horn upwards. The surgical site was prepared for aseptic surgery. After aseptic preparation of site a circular incision was given at the base of the horn, taking utmost care to preserve the skin. Two linear incisions were given starting from the base of the horn, one towards the nuchal crest and the other extending towards the frontal crest. The dorsal and ventral skin flaps were separated by undermining close to the bone. The horn was sawed using chisel and hammer. The nuchal diverticulum and cornual diverticulum of the frontal sinus were thoroughly curetted to get rid of neoplastic cells. Chiseling of the frontal bone was done to get apposition of the skin flaps, if required. Then the skin flaps were closed with simple interrupted sutures using black braided silk No.2 followed by dressing with povidone iodine solution. Postoperatively injection streptopenicillin @ 10 mg/kg bwt, intramuscularly was given for 5 days and meloxicam @ 0.2 mg/kg bwt intramuscularly for 3 days and Vincristine sulphate (0.025 mg/kg intravenously) thrice at the interval of 7 days. Sutures were removed after 12 days.

RESULT AND DISCUSSION

The recovery was uneventful and uncomplicated in both cases. Complete cure and no recurrence of horn cancer could be due to action of Vincristine on mitotic figures of rapidly multiplying neoplastic cells. Therefore, it could be stated that squamous cell carcinoma of horn could be treated successfully with Vincristine sulphate by scheduled doses. Udharwar *et al.* (2008) also reported the same.

Fig1: Photograph showing Growth at fracture site in cattle

Fig 2: Photograph showing Suture line after horn amputation

Fig 3: Photograph showing softening of horn base and tilting of horn

Fig4: Photograph Showing suture line after horn amputation