

EXENTERATION OF EYE BALL FOLLOWING A SEVERE IRREVERSIBLE MECHANICAL TRAUMA: A CASE REPORT

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ABSTRACT

A Lakhimi breed cattle weighing approximately 80kg was presented in the veterinary clinical complex, Lakhimpur College of Veterinary Science with an almond sized blood clot at the centre of the left eyeball. Physical examination confirmed the case as traumatic rupture of eye ball along with complete loss of vision. Exenteration of eyeball with tarsoraphy was done under local anaesthesia. Uneventful progressive recovery could be noticed within a period of 15 days.

Keywords: Cattle, Eyeball, Extirpation, Lakhimi breed, Mattress suture

INTRODUCTION

Normal functioning of eye is utmost important for maintenance of health. Ruptured eyeball in a productive animal can cause serious dis-balance in the normal physiological equilibrium as well as on the economy of the farm. Moreover, ruptured

eyeball can lead to severe infections resulting a high risk of life threatening fatal condition (Zahid, 2000). So, it is always preferable to execute exenteration in such conditions when no other viable conservative treatments work (Khan *et. al.*, 2014).

CASE HISTORY AND OBSERVATION

A two years old Lakhimi heifer cattle weighing approximately 80 kg was presented with a history of day old severe accidental injury of the left eye. Clinical evaluation revealed an almond sized blood clot was present over the ruptured cornea (**Fig. 1a**), which on manipulation resulted severe bleeding due to protrusion of iris through the corneal wound. There was no sensation and normal tension of the affected eye on digital palpation. The vital parameters like body temperature (101.4°F), Respiration rate (30/min) and Heart rate (60 beats/min) were found within normal limit. Since, all above clinical findings

specify an irreversible damage of the eye ball, therefore, the heifer was subjected to Exenteration.

TREATMENT

On the day of presentation, the affected eye was carefully cleaned with normal saline solution and the blood clot was removed from the affected part using sterile cotton gauge. An antibiotic umbrella with an antibiotic eye drop and systemic antibiotic @ 10mg/kg body weight (bwt) via intravenous (IV) route for two days were administered. The animal was fasted for 18 hours before the surgical intervention.

On the 3rd day the heifer was re-examined and all parameters were within normal range. The animal was sedated with xylazine @0.1mg/kg bwt via intramuscular (IM) route and restrained in right lateral recumbency. Analgesia was achieved by retrobulbar nerve block and linear block both over dorsal and ventral eyelid with 2% lignocaine hydrochloride (**Fig. 1b**). Following aseptic surgical preparation (**Fig. 1c**), both palpebral borders were stay sutured in a continuous manner. An elliptical cutaneous incision enclosing the suture line was made restricting any opening into the conjunctival sac. The skin edges were retracted and the eyeball along with its muscles was detached by blunt dissection from the bony orbit (**Fig.1d**). The

blood vessels were ligated using chromic catgut (1-0) and the damaged eyeball along with muscles were then removed (**Fig.1e**). The orbital cavity was packed with sterile gauge bandage dipped in tincture benzoin to prevent further bleeding. The skin edges were sutured by horizontal mattress suture using mersilk no. 0. Antiseptic lotion (5% povidone iodine) and fly repellent were applied over the surgical site. A sterile bandage was applied over the surgical site (**Fig.1f**)

The gauge was removed on 3rd post operative day (**Fig. 1g**) followed by antiseptic dressing for 7 days. The skin sutures were removed on 10th post operative day (**Fig. 1h**). A course of antibiotic ceftriaxone @ 10 mg/kg bwt IV done twice daily for 10 days and once daily for next 2 days along with antihistaminic @ 0.5mg/kg bwt IM from the next day onwards for 10 days. An analgesic Tolfenamic acid @2mg was injected via IM route on the day of surgery. Serratiopeptidase was given orally @1 bolus twice daily from 3rd day onwards for 7 days. The surgical wound healed uneventfully.

DISCUSSION

Exenteration is the ultimate option in the treatment of eyeball injury when no other conservative therapy works (Sharma *et. al.*, 2012). Precise examination and evaluation



Fig.1. Surgical Procedure; (i) An almond sized blood clot; (ii) Retrobulbar nerve block (iii) Prepared surgical site; (iv) During surgical intervention; (v) Removed eyeball with accessory structures (vi) Post-surgical bandaging; (vii) 3rd post operative day; (viii) After removal of skin sutures.

of the condition is very much important to finalize the decision of exenteration. In the present case careful evaluation revealed absence of normal ocular tension and sensation, ruptured whitish cornea along with mal-presentation of normal anatomical structures like pupil, iris, lens that leaves no option for medicinal therapy but surgical. In bovine many surgeries can be performed with nerve blocks, however sedation with xylazine makes it convenient to perform without struggling on the part of animal (Vermunt, 1984.). Post operative

care also plays a vital role in the successful recovery. Therapeutic management includes a course of antibiotic, antihistaminic, Non-Steroidal Anti-Inflammatory drugs along with a proteolytic enzyme that brings an uneventful recovery. Similar kind of post operative management was also suggested by Sharma *et. al.*, 2012 and Khanday *et. al.*, 2020.

CONCLUSION

This communication represents exenteration of the eye ball as a

definitive alternative in the treatment of irreversible eye ball injury. Authors of this communication would also like to suggest that all techniques and procedures in this case are convenient, effective and feasible in field condition.

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