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Surgical reconstruction and repair of lower eyelid laceration in a bull: A case report

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Abstract

A two and half year old, non-descriptive breed male cattle, weighing 250-300 kg was presented with a history of acute eyelid laceration of the right lower eyelid by an accidental vehicle impact. The bull was restrained and sedated by using xylazine (@0.025 mg/kg im). The auriculopalpebral nerve block was performed. The lower lid was desensitized by infiltrating local anaesthetic. The lacerated lid margins were freshened by B.P. blade no. 22 and sutured in two layers using Vicryl no. 2-0 and non-absorbable suture material Nylon no. 2.0. Post-operative care included topical antimicrobial (ciprofloxacin) eye drops instilled in the eye thrice a day for 5 days. Ointment pendistrin was applied locally over the suture site. Systemic Dicrysticine (2.5 g) and Meloxicam (at 0.5 mg/kg b.wt.) were administered for 5 and 3 days, respectively. Sutures were removed on the 15th post-operative day. The eyelid healed completely without any complication.

Keywords: Cattle, laceration, auriculopalpebral nerve block, two layer.

Introduction

Lower eyelid of cattle is a specialised protective fold of tissue which is less mobile when compared to upper eyelid. It provides protection, tear distribution, oily secretion barrier. There are different reasons that may lead to the laceration of the eyelid, most common are trauma, injury during grazing, barbed wire fences, thorns, etc. The lacerations may vary in severity, extent depending on the tissue involved and the extent of the damage occurred. In cases where the eyelid detached from the medial, lateral canthus and hangs as a pedicle needs a surgical intervention to preserve the structural integrity, prevent the scarring or it induced entropion. There are many approaches to correct lacerations of the upper eyelid, viz. two-layered and three-layered repair. The method is opted based on the extent of laceration and tissue involved. In the present study a figure of 8 suture for the eyelid margin and simple interrupted sutures for the skin was performed.

Materials and methods

A two and half year old, non-descriptive breed male cattle, weighing 250-300 kg was presented with a history of acute eyelid laceration of the right lower eyelid by an accidental vehicle impact. The animal exhibited the clinical signs of mild pain and discomfort, ocular discharge. The vital parameters heart rate, respiratory rate were within normal range i.e 64bpm and 24per minute respectively. The temperature recorded was 102.5 degree Fahrenheit. The ocular reflexes were checked. The palpebral reflexes found to be sluggish, menace reflexes was present (Wilkie, 1991). The Bull was sedated with Xylazine HCl (@0.025mg/kg im) and regional analgesia was obtained by auriculo-palpebral, local infiltration using 2% lignocaine HCl along the wound edges (Tyagi and Singh, 2012). The The devitalised tissue was debrided using BP blade no.22 and a sterile gauge and washed with normal saline solution. The site was prepared for the surgery aseptically and a figure of 8 suture for the eyelid margin intermediate subcutaneous tissue and simple interrupted sutures for the skin was performed. Systemic Dicrysticine (2.5 g) and Meloxicam (@ 0.5 mg/kg b.wt.) were administered for 5 and 3 days, respectively. Sutures were removed on the 15th post-operative day. To hasten the healing

Tissue Aid bolus was administered for 10 days.

Result

The surgical repair was completed uneventfully under sedation and regional analgesia. Intraoperative findings included a full-thickness laceration of the right lower eyelid with minimal contamination and no involvement of the globe or medial/lateral canthi. Debridement removed devitalized tissue and achieved healthy wound edges. Closure was performed in two layers: a figure-of-8 suture for apposition of the eyelid margin and intermediate subcutaneous tissues using Vicryl no. 2-0, and simple interrupted skin sutures with Nylon no. 2.0. Estimated operative time was approximately 30-40 minutes. The animal recovered smoothly from sedation with no immediate complications. After surgery the eye gradually improved. Discharge decreased by day 3 and was gone by day 7. The topical antibiotic drops and ointment kept the area clean and moist, and the short course of anti-inflammatory and supportive medication helped control pain and swelling. There were no signs of infection, the sutures held well, and the eyelid edges lined up neatly. When the stitches were

removed on day 15 the skin had healed and the eyelid was functioning normally the blink and palpebral reflexes were intact and there was no scarring causing inward or outward turning of the eyelid.

Discussion

This case shows that prompt, careful repair of a lower eyelid cut in cattle can restore both appearance and function when combined with good pain control and wound care.

Good pain control and immobilization: Sedation plus an auriculopalpebral nerve block and local anaesthetic let us work precisely on a nervous, heavy bull without needing heavy general anaesthesia. That made the repair safer and quicker. Two-layer closure: Using an internal figure-of-8 stitch helped line up the delicate eyelid margin crucial to avoid rubbing or scratching of the cornea. The outer interrupted nylon stitches protected the skin while it healed. Infection prevention and comfort: Topical antibiotics and ointment, plus a brief course of systemic medications, likely prevented infection and made the animal more comfortable so it could keep the eye clean (less rubbing, less irritation).



Fig 1: Lower eyelid laceration



Fig 2: Eyelid repair in two-layer



Fig 3: On 7th post-operative day wound showed significant reduction in swelling and persisted gaping



Fig 4: Recovery and functional lower eyelid

Conclusion

The bull's lower eyelid healed fully after prompt cleaning and a two-layer repair done under light sedation and a local nerve block. Using a figure-of-8 stitch to line up the eyelid margin, simple skin sutures, an antibiotic eye drop and ointment, and short courses of pain-relief and supportive medicine kept the wound comfortable and infection-free. In short, quick action, careful suturing, and good aftercare restored the eyelid's appearance and function with very little scarring.

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