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Case Report

REPAIR OF EXTENSIVE EYELID LACERATION WITH EXPOSED LACRIMAL GLAND IN BUFFALO – A REPORT OF TWO CASES

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Abstract: Two buffaloes with lacerations on the left upper eyelid in one and right upper eyelid in the other were diagnosed with exposed lacrimal glands resulted from a horn gore. The lacerated wounds were managed surgically by three layered suture technique, under local analgesia which yielded a favorable outcome. No postoperative complications were recorded in both the cases.

Keywords: Three layered suture technique, eyelid lacerations, Auriculopalpebral nerve block, Buffaloes.

Introduction

Eye lids form the outer protecting layer of the eye which protects the eye ball from trauma besides controlling the entry of light into the eye by its movement. They spread the tear film uniformly over the eyeball by blinking (Maggs, 2008; Siddiqui and Telfah, 2010). Wounds over the eye lids in animals, may happen during grazing at thorny bushes or trees, sometimes by contact of barbed wires (Bishnoi and Gahlot, 2004; Gahlot et al., 2007). These wounds may range from a simple laceration perpendicular to the margin of eyelid to an extensive one with a flap of eye lid hanging from a pedicle or laceration with complete loss of eyelid margin (Irby, 2004). Usually these wound are edematous and bloody with mucoid to mucopurulent discharges in the periocular areas. Jena et al., (2015), reported management of eyelid laceration in a camel whereas, only a very few reports were available on lacerated wound of eyelids in buffaloes. In the present paper, surgical management of extensive upper eyelid lacerations in buffaloes was reported.

Case history and Observations:

Two graded Murrah she buffaloes were presented to the clinics with a complaint of injury on the upper eyelids. The injuries were said to have happened during infighting. In Case 1,

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Graded murrah she buffalo of 8 years showed a laceration from the lateral canthus on right upper eye lid and in case 2, Graded murrah she buffalo of 6 years showed laceration from the middle of left upper eye lid to the lateral canthus.

In both the cases, the symptom, lesions etc were more or less similar except the difference of dexterity. On physical examination, swollen lacrimal glands were found exposed. Soiling was observed in both the cases but it was heavier in case 2 when compared to that in case 1. No discharges were noticed, as they were presented immediately. Blepharitis along with blepharedema was noticed. Mild conjunctivitis was noticed but without any apparent defects in vision. Hematological and serum biochemical parameters were found to be normal in both the cases. Based on clinical findings, the condition was diagnosed as extensive laceration of eyelid and decided to reconstruct.

Treatment

The buffaloes were sedated with xylazine hydrochloride IM at the dose rate of 0.03 mg per Kg body weight and regional analgesia was achieved by performing Auriculo palpebral, supra orbital, nerve blocks using 2% lignocaine hydrochloride. As the sensory innervation to the eye lids in buffaloes is received from nasociliary branches of ophthalmic nerves, besides supra orbital nerve, a line of analgesia was also created in eyelids through linear infiltration at a considerable distance from the margin of wounds so as to avoid distortion of wound edges besides causing analgesia. After ascertaining prompt analgesia, they were controlled in standing position. Antibiotic eye drops were instilled into eye before starting the surgical procedure. After aseptic preparations, the wound edges of the eyelids were freshened with the help of gauze instead of scalpel, to avoid loss of more tissue in the margins of wound. Suturing of margins was done in three layers with deep layer involving fibrous tarsal plate and orbicularis oculi layer of the eyelid margins with polyglactin 910 No 3-0 followed by subcutaneous sutures (intermediate layer). Then the cutaneous edges were sutured with interrupted sutured (superficial layer) using No 2-0 braided silk. The palpebral conjunctiva was left unsutured as suturing of the skin and orbicularis oculi layer enables its apposition. After surgical correction of eyelid, the eye was irrigated with normal saline. Postoperatively, both the animals were given Streptopencillin at dose rate of 500mg/50Kg Body weight IM once daily for 5 days, Meloxicam at the dose rate of 0.2 mg/Kg Body weight subcutaneously once daily for 3 days and ciprofloxacin eye drops were instilled in to the eye three times a day for 10 days.

Results and Discussion

Complete healing of the wound was noticed by the end of 8th day in case 1 and 14th day case 2. No postoperative complications like ectropion or entropion, step formation in the margin of eyelids and wound dehiscence were noticed in a follow up period of six months.

Eyelid lacerations observed in the present report were due to horn gore. As buffaloes are vicious and are known for their fighting nature, injuries due to butting among themselves are very frequently reported in large animal practice. Due to nosy posture, injuries to the head in general and eyes in particular can be thought to happen quite often. Irby, (2004) stated that, upper or lower eyelid injuries are resulted from hooks, nails or other pointed objects where as extensive wounds may also occur due to crushing of the tissue by blunt objects. As the eyelids are sensitive and most vascular, edema is usually seen immediately after the injury (Jena et al., 2015) as noticed in the present study.

No discharges were noticed in the present study which could be attributed to their early presentation. Both case cases were operated immediately to prevent further discomfort to them by possible Keratoconjunctivitis due to continuous exposure of cornea to environment besides irritation by hanging flap of the injured eyelid. Irby, (2004) also opined that, the management of eyelid laceration in animals requires immediate treatment.

In the present study surgical repair was done under sedation besides local analgesia using a combination of nerve blocks along with local infiltration of anesthetic solution at a considerable distance from the site of injury. Bedi (2015) stated that, injection of anesthetic mixture at the site of injury may distort the local anatomy causing difficulty in appropriate apposition. Hence, the linear infiltration was carried out well above the site of damage. The margins of the eyelids in the present study were sutured by traditional three layered technique as advised by Irby, (2004) to treat eyelid laceration with deep layer covering fibrous tarsal layer and orbicularis oculi layer, intermediate layer involving subcutaneous tissue and the superficial layer involving skin. Chawla et al (1993) recommended a two layered technique for suturing the major lacerations of eye lid with first layer involving the palpebral conjunctiva followed by second layer involving muscle layer and skin. In present study, palpebral conjunctiva was not sutured as the suturing of fibrous tarsal layer and orbicularis oculi layer causes apposition of palpebral conjunctiva at the same time there will not be any irritation to cornea due to suture material. Similar technique was also followed by Bedi (2010) in human eye lid lacerations keeping in view of the same principle. Proper

reconstruction strict postoperative care ensured a good recovery in both cases with acceptable aesthetic appearance.

Conclusion

Lacerated wound of eyelid is a condition which should not be neglected as it may lead to other ocular disorders like Keratoconjunctivitis, corneal ulcers etc which may interfere with the vision of animal. A three layered suturing technique using an absorbable suture material is recommended to be carried out under regional analgesia in order to get encouraging results.

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Fig-1: Photograph showing extensive laceration of right upper eyelid with exposed lacrimal gland (shown by an arrow) in a buffalo

Fig-2: Photograph showing extensive laceration of left upper eyelid with exposed lacrimal (shown by arrow) gland in a buffalo

Fig-3: photograph showing reconstructed right upper eye lid in a buffalo

Fig-4: Photograph showing reconstructed left upper eye lid in a buffalo