

Extirpation of Traumatically Ruptured and Maggoted eyeball in a Sambar Deer (*Cervus unicolor*)

Jayakrushna Das^{1*}, Biswadeep Jena² and Snehasis Pradhan³

Department of Veterinary Surgery and Radiology, College of Veterinary Science and Animal Husbandry, Orissa University of Agriculture and Technology, Bhubaneswar, Odisha, India

ABSTRACT

A 10 years old male Sambar deer (*Cervus unicolor*) of Nandankanan Zoo was presented with traumatically ruptured and maggot infested right eyeball in conjunction with clinical signs like severe ptosis, epiphora, orbital inflammation, periorbital swelling, marked pain upon retropulsion, abnormal ipsilateral nasal odour and discharge. In order to correct the thwarted condition, extirpation of eye ball and tarsorrhaphy was performed. Obligation of proper surgical techniques and maintenance of adequate postoperative measures rewarded with prevention of infection into the brain.

Keywords : Extirpation, Eyeball, Trauma, Maggot and Sambar Deer

I. INTRODUCTION

Orbital injuries may be inflicted due to direct or indirect trauma. The degree of injury may vary from a simple contusion or an abrasion of skin in orbital region to the fracture of orbit (Irby, 2004; Das *et al.*, 2008; Khan *et al.*, 2014). The sambar (*Cervus unicolor*) is a large deer native to Indian subcontinent and the state animal of Odisha, characterised by presence of large, rugged antlers. Traumatic injuries courtesy of antlers to the head, orbit or globe are very common in these animals. The present communication deals with successful extirpation of eyeball which had been ruptured due to infight between two sambar deer and subsequent infestation with maggots.

History

A 10 years old male Sambar deer weighing 220 kg, of Nandankan Zoo was presented with traumatically ruptured and maggot infested right eyeball. Examination and manipulation of ocular and periocular tissues were done after attainment of adequate physical restraint. History of anorexia, depression and physical examination revealed severe ptosis with exposed keratitis, epiphora, orbital inflammation, cellulitis,

periorbital swelling, loss of vision and reflexes, abnormal ipsilateral nasal odour and discharge, marked pain when the affected eye is retropulsed into the orbit (Fig. 1). On the basis of clinical signs, it was decided for extirpation of eye ball and tarsorrhaphy on an emergency basis.



Figure 1. Showing traumatically ruptured and maggot infested right eyeball (inset) of Sambar deer (*Cervus unicolor*) in conjunction with clinical signs like severe proptosis, epiphora, orbital inflammation, periorbital swelling, marked pain upon retropulsion, abnormal ipsilateral nasal odour and discharge.

II. METHODS AND MATERIAL

Surgical Management

Animal was chemically restrained with a mixture of 330 mg of xylazine hydrochloride (Xylazil®; Troy laboratories Pvt. Ltd.) and 660 mg of ketamine hydrochloride (Ketamil®; Troy laboratories Pvt. Ltd.) darted intramuscularly. After attainment of sedation, the external jugular vein was catheterised and approximately 2 litres of dextrose and normal saline (DNS 5%) was administered intra-operatively. In order to achieve complete analgesia of eyeball four points retrobulbar nerve block was performed by depositing 40 ml of 2% lignocaine hydrochloride solution in the retrobulbar cone using a slightly curved 8.75cm (31/ 2in) 18 gauge needle. Surgical site was cleaned with 1% boric acid solution.

A circumferential approach around the ruptured, swollen eyeball was made by blunt dissection around the orbit until the optic stalk and blood supply were reached. After cruciate ligation of the optic stalk with strong absorbable suture (Catgut #2, Ethicon Inc.), extirpation was performed (Fig. 2). Following surgery, a large dead space was obliterated with sterilised gauze soaked with povidone iodine and Vasocon. Then tarsorrhaphy was done (Fig. 3). After surgery, 33 mg of yohimbine hydrochloride (Antagozil®; Troy laboratories Pvt. Ltd.) was injected intravenously. The deer regained consciousness within two-three minutes. Post-operative antibiotic with ceftriaxone sodium and tazobactam™ 3375 mg (Intacef Tazo®, Intas Pharmaceuticals Pvt. Ltd.) and analgesic (40 mg of Meloxicam; Melonex®, Intas Pharmaceuticals Pvt. Ltd.) was continued for five days with regular dressing of extirpated orbit and the animal recovered.



Figure 2. Showing extirpation of thwarted eyeball after cruciate ligation of the optic stalk with the help of strong absorbable suture threads (Catgut #2).



Figure 3. Showing obliterated orbital space followed by tarsorrhaphy.

III. RESULT AND DISCUSSION

Acquired ocular conditions used to occur at a higher incidence than congenital conditions. Among those acquired conditions serious head, ocular and orbital trauma are always emergencies. Lacerations, ruptured and protrusion of eye ball are the most common traumatic injury in horned animals. Extirpation technique is indicated following ocular trauma leading to panophthalmia, painful glaucomatous eyes, extensive ocular tumours, irreparable injury, orbital abscess, severe trauma with loss of globe. Complete and permanent tarsorrhaphy usually followed to enucleation and extenteration is the best mean of treatment with no postsurgical complications and successful recovery (Irby, 2004; Das *et al.*, 2008; Khan *et al.*, 2014). Maggot wounds are usually present in areas where animals cannot lick and unable to repel the flies. Because of feral nature of the animal, aforementioned condition was lately detected which exacerbated to maggot infestation. Local dressing with magacidal agents like oil of turpentine is used to remove the maggots from the wound, while treating maggot wounds on the face near eyes, the oil may accidentally seep into the eyes causing conjunctivitis (Chawla *et al.*, 2010). Therefore it was decided to go for extirpation instead of daily wound management for better prognosis. In many instances,

these procedures can be done in standing sedated animal. However, general anaesthesia is certainly advantageous when the animal is fractious or has a severe lesion or for humane concerns (Irby, 2004).

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V. REFERENCES

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