

Case Report

**ACUTE TRAUMATIC PROPTOSIS IN A FOUR-YEAR OLD NIGERIAN DOG:
A CASE REPORT**

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INTRODUCTION

Ocular emergencies can be very intimidating for veterinarians. Most ocular emergencies can be stabilized by a general practitioner until an ophthalmologist can be consulted if necessary (Mandel, 2000). Proptosis of the globe out of the orbit with subsequent entrapment by the lid is a common traumatic event in dogs and cats (Jensen, 1973). Proptosis is most common in brachycephalic breeds and animals such as hedge hogs with shallow orbit and large palpebral fissure (Wheler *et al.* 2001). The condition also occurs in dolicocephalic breeds most often as a result of trauma to the side of the head (Slatter, 1985; Mandel, 2000; Wheler *et al.* 2001; Slatter, 2001). Basic ophthalmic diagnostic instruments (ophthalmoscope and tonometer) are used to evaluate the condition by performing complete physical and ophthalmic examinations. If other problems are present, the proptosed globe must be protected against further exposure and drying (Slatter, 1985). Proptosis of the globe may result in congestive glaucoma, marked exposure keratitis, corneal necrosis, iritis, luxation of the lens and avulsion of the optic nerve (Slatter, 2001). Attempts should be made to replace most proptosed globe except in cases of massive destruction of the intraocular contents.

KEY WORDS: Nigerian dog, Proptosis, Tasorrhaphy

CASE REPORT

A four-year old Nigerian dog weighing 25 kg was presented to Usmanu Danfodiyo University Veterinary Teaching Hospital Sokoto and evaluated for an acute traumatic proptosis of the left globe. The patient was involved in an automobile accident twelve hours prior to presentation and had its globe proptosed (Plate 1).

MANAGEMENT

A complete ophthalmic examination revealed edema of the bulbar conjunctiva, dry cornea, moderately contaminated sclera, mydriasis which was unresponsive to papillary light and sclera ecchymosis between 12⁰⁰ and 4⁰⁰. Hyphema was moderate but the bony socket was intact. There was no evidence of involvement of extra orbital muscles.

The proptosed globe was protected with a sterile gauze soaked in normal saline solution. The vital parameters were within normal findings and the visible mucosae were pink, the capillary refill time was less than 2 seconds.

Atropine sulphate (0.02mg/kg) and Xylazine (Rumpon[®]) (1mg/kg) were administered intramuscularly in a single syringe. Post sedation, the patient was placed on right lateral recumbency for a thorough physical evaluation of the proptosed globe. Sodium pentobarbitone (Nembutal[®]) (10mg/kg) was administered as anesthetic to effect. The patient was placed on sternal recumbency and intubated. Contaminants were removed from the sclera and from under the third-eyelid by hydro-pulsation using 0.1% chlorhexidine and then rinsed immediately with normal saline solution. Sterile gauze soaked in normal saline solution was placed on the proptosed globe to reduce the edema of the palpebral and bulbar conjunctivae.

The peri-ocular area was prepared for sterile surgery as previously described (Crispin, 2005). Preplaced simple interrupted sutures were placed on the upper and the lower eyelids, using size 1 monofilament nylon on cutting cured a-traumatic needle. The ends of each of the sutures were held individually with

hemostat. A scalpel handle was used as spatula and placed gently on the gauze which protected the globe. While a gentle pressure was placed on the globe through the spatula. An upward uniform pressure was applied on the eyelids through the hemostats holding the ends of the sutures.

The proptosed globe was replaced into the socket and held in place by used of temporary tassorrhaphy. Oxycotril-B[®] ointment (Oxytetracycline, Hydrocortisone, Polymxim-B) was instilled into the eye through the lateral canthus and bandaged. Elizabethan collar was put in place and the eye was dressed daily for 7 days (Plate 2).

The tassorrhaphy sutures were removed 21 days post reduction and the globe remained within the orbit. The intra ocular pressure was 33mmHg and the anterior chamber was clear but there was strabismus. There was still mydriasis that was unresponsive to light but there was no physical evidence of pain. The eye was aesthetically acceptable (Plate 3).



**PLATE 1: Patient with the proptosed globe
(See arrow)**

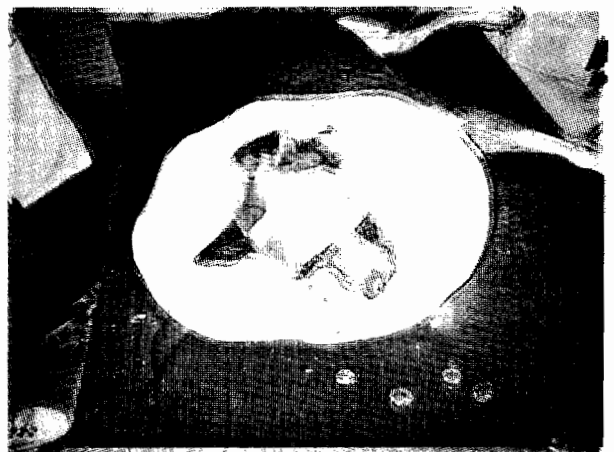


PLATE 2: Patient with Elizabethan collar



PLATE 3: Patient months after management

DISCUSSION

Proptosis is an ocular surgical emergency, as prompt replacement of the globe could provide the best chance of preventing further damage to the proptosed globe. Prior to globe replacement the degree of ocular injury must be critically evaluated; this include the severity of corneal desiccation, integrity of the Sclera, degree of extra orbital muscle damage, pupil size, presence of hyphema and pupillary light reflex responses (Harvey *et al.*, 1990; Mandel, 2000; Wheler *et al.*, 2001)

In this case there was a moderate contamination of the sclera by debris, hyphema was mild and mydriasis was marked. The lateral and medial rectus muscles were severely stretched but not transected.

Majority of proptoses occur in brachycephalic breeds that are predisposed because of their shallow orbit and wide eyelid margins (Mandel, 2000). Pekinese, pugs, boston terriers, Lhasa Apso and Shih Tzu are over represented in documented clinical cases (Slatter, 2001)

Severe force to the side of the face is often required to proptose the globe of a dolicocephalic breed, as

the globe is well seated in the orbit. Cats have complete bony orbit and therefore require greater trauma to the side of the face to proptose the globe (Mandel, 2000; Slatter, 2001; Wheler *et al.*, 2001). In this case, trauma to the side of the face was cause by the pet owner backing up out of the garage, but there was no suggestive evidence of fracture to the orbital bone.

Conservative management could be attempted even in the absence of vision for cosmetic reasons provided the integrity of the cornea and sclera is established (Mandel, 2000). Although there was a negative papillary light response in this case, the proptosed globe appeared structurally normal. Hence the proptosed globe was replaced after removal of the contaminant and reduction of the edema.

Management of proptosed globe could result in exposure keratitis, corneal ulcer, glaucoma, strabismus, lagophthalmos and blindness (Harvey, 1990; Mandel, 2000; Wheler *et al.* 2001; Crispin, 2005). The complication of this case managed was strabismus, the pupillary light reflex was negative post trauma and the management was purely for cosmetic reasons. Infection was controlled through aggressive use of topical and systematic antibiotics. The patient was prevented from interfering with the surgical site by the use of Elizabethan collar, along with constant surveillance on the patient. To the best of our knowledge there was no previously documented case of acute traumatic proptosis in Nigerian dogs.

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