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## Reposition of traumatic ocular proptosis through lateral canthotomy in a kitten

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### Abstract

Present case reports a successful diagnosis and surgical management of traumatic unilateral proptosis in a one month old female kitten with lateral canthotomy under general anaesthesia. A Kitten presented in Veterinary clinical complex, Bikaner, with a history of dog fighting and clinical examination revealed moderate prolapse of left eye globe. Eye globe reposition as well as temporary tarsorrhaphy was done.

**Keywords:** kitten, traumatic ocular proptosis, lateral canthotomy, temporary tarsorrhaphy

### Introduction

The eye is undoubtedly the most uniquely crafted sensory organ of the vertebrate body (Don, 2013) [1]. Traumatic ocular proptosis is defined as forward displacement of the eye by a traumatic episode with entrapment of the eyelids behind the eye (Fossum, 2013) [2]. Severe trauma to head causes proptosis in cats and most common causes is fighting with larger breeds of same or other species like dogs which involve scruff of neck and head allows the eyes to pop forward. (Kumar *et al.*, 2016) [3]. Traumatic proptosis can occur in any breed and in both dogs and cats (Gilger *et al.*, 1995) [9]. In case of kittens fight with the larger cats tends to grab the kittens by the scruff of the neck and it predisposes to such affections (Kumar *et al.*, 2016) [3]. Proptosis caused by traumatic episodes is a surgical emergency, and replacement of the globe should not be delayed unnecessarily (Fossum, 2013) [2] and hence the present case was planned communication puts on a record of acute case of traumatic unilateral proptosis treated successfully by lateral canthotomy, reposition as well as temporary tarsorrhaphy technique in a mongrel kitten.

### Anamnesis and Clinical Finding

A one month old female kitten was presented to Veterinary clinical complex, Bikaner with the history of dog fighting (Fig:1). Clinical examination revealed protruded left eye ball without fracture of skull. The menace reflex was negative while pupillary reflex revealed positive. According to clinical examination, replacement of eye ball was decided and canthotomy was performed under general anaesthesia to reduce further complication.

### Anaesthesia and surgical procedure

General anaesthesia according to Tranquilli *et al.*, (2013) [8] were used to unconscious the animal with appropriate dose calculated after measuring the body weight (0.2 Kg) of pug

Following drugs were used as balanced anaesthesia for required unconscious state :

Name of drug	Purpose	Dose-rate (mg/kg)	Calculated dose (ml)
Atropine sulphate (1mg/ml)	Anticholinergic agent	0.044	0.01
Xylazine (20mg/ml)	Preanaesthetic, Sedative, muscle relaxant	0.2	0.05
Ketamine (50mg/ml)	General anaesthesia	15	0.06

After unconsciousness of kitten, protruded eyeball was cleaned gently by 0.9% saline solution. Eye ball was lubricated gently by neomycin ointment and replacing in its orbit.

The eye ball was replaced in its orbit successfully without affecting the other structures of eye. Lateral Canthotomy was performed as per need during treatment. Temporary tarsorrhaphy (Fig:2) was performed to retain the eye ball in

orbit.

### Post operative care

After replacement of eyeball following drugs were used in different manner :

Name of drug	Purpose	Route of administration	Dose rate
Dexamethasone & Gentamicin	To prevent secondary uveitis and ocular infection	Subconjunctivally	2.2mg & 20mg, respectively (single injection)
Moxifloxacin	To prevent secondary infection	Topically in eye	3 drops thrice a day for 7 days
Flurbiprofen	Anti-inflammatory and analgesic	Topically in eyes	2 drops twice a day for 5 days
Carboxy methyl cellulose (0.5%)	Artificial tears to prevent KCS	Topically in eye	2 drops twice a day for 7 days
Ceftriaxone	Systemic antibiotic	Intramuscular	15 mg/Kg, O.D. for 3 days
B-complex (Tribivet)	Supportive	Intramuscular	2 ml total dose



Fig 1: Photograph showing proposed eyeball

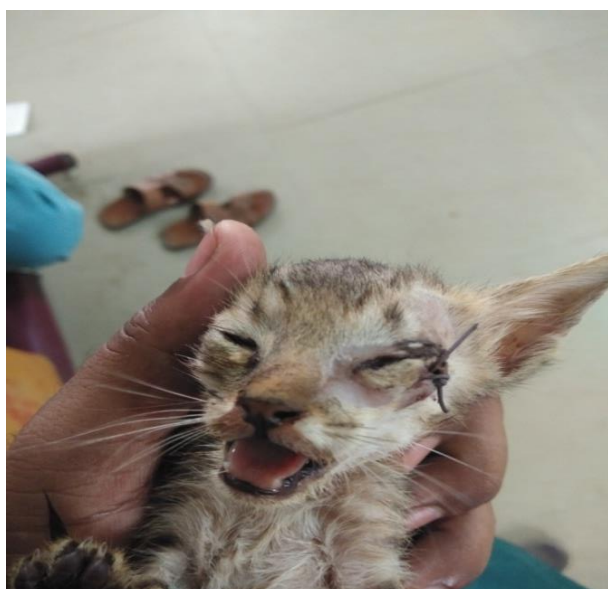


Fig 2: Photograph showing tarsorrhaphy in given case

### Results and Discussion

Animal was completely recovered after a week of surgery without any further complication. Keratitis sicca (KCS) and optic nerve atrophy are the common sequel to proptosis which were not reported in this study since one month (Stephen, 2013) [6]. The ocular emergencies like proptosis can be treated with enucleation or replacement with tarsorrhaphy depending on the viability of extra-ocular tissue and eye (Mandell, 2005) [4]. In present case the extra-ocular musculature was enough to

hinder the replacement of globe behind the lids with lateral canthotomy. Ofri (2008) [5] opined presence of PLR reflex to be the important sign for canthotomy. Persian cats are more prone to traumatic proptoses, due to their flatter facial structure and shallow eye sockets, the condition can occur in any breed of cat. On ultrasonography, retina is an acute detachment is thin and highly echogenic, but with time, retinal membrane becomes thicker and moves to center of the vitreous to form a funnel shaped configuration (Spaulding, 2008) [7].

**Conclusion of study:** Traumatic proptosis in small animals needed immediate surgical intervention and lateral canthotomy under general anaesthesia can be a successful surgical technique for management of traumatic proptosis in kitten and in this case minimum complications were observed.

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