

# Surgical Reconstruction of Third Eyelid Laceration in a Dog

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## Abstract

*A three-year-old male Doberman dog was presented with a history of dog bite over the left eye. By ophthalmic examination, it was diagnosed as third eyelid laceration and surgical reconstruction was performed under general anesthesia. No postoperative complications were reported.*

**Keywords:** Lagophthalmos, laceration, lacrimation, third eyelid

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## INTRODUCTION

The third eyelid (or nictitating membrane) is a mobile, protective, and glandular structure lying between the cornea and the lower eyelid in the medial portion of the inferior conjunctival sac [1]. Reports are available mentioning different affections of third eyelid such as eversion [2], lacerations [3], and neoplasms [4]. As the third eyelid acts as a protective membrane in both animals and birds, its immediate repair warranted for proper functioning of the eye. In the present case, surgical reconstruction of third eyelid laceration resulting from a dog bite in a male Doberman dog was unveiled.

## HISTORY AND CLINICAL EXAMINATION

A three-year-old male Doberman dog was presented to the Department of Veterinary Surgery and Radiology, NTR College of Veterinary Science, Gannavaram, Andhra Pradesh, India with an injured left eye. It was said to have been attacked by a stray dog on the previous day. Scrupulous examination of the eye revealed lacerated third eyelid close to the medial canthus of the eye (Figure 1). Signs of ocular pain, lagophthalmos, epiphora and mild conjunctivitis were also noticed. No apparent corneal defects could be seen. All the usual reflexes of eye such as palpebral, papillary light and consensual reflexes were found normal, suggesting the absence of visual abnormality in the affected eye. Both

hematological and serum biochemical parameters were well within the normal ranges.



**Fig. 1:** Photograph Showing Lacerated Third Eyelid with Free Flaps in a Doberman Dog.

## TREATMENT AND MANAGEMENT

Surgical reconstruction of injured third eyelid was planned on the next day and the eye was irrigated with normal saline followed by administration of ciprofloxacin eye drops. Animal was premedicated with glycopyrrolate at 0.01 mg/kg body weight and anesthesia was induced with thiopental sodium at 5 mg/kg body weight maintained with isoflurane inhalation anesthesia. The corneal and conjunctival surfaces of the eye were cleaned with a cotton tip applicator and irrigated with 0.5% povidone iodine solution. Wound edges of the ruptured third eyelid were opposed and aligned with the help of stay sutures followed

by suturing with 3-0 chromic catgut in simple continuous pattern with knots on anterior aspect (Figure 2). Subconjunctival injection of 0.2 ml each of gentamicin and prednisolone was given.



**Fig. 2:** Photograph Showing Sutured Wound Edges of Third Eyelid.

#### POSTOPERATIVE CARE

Postoperatively the animal was given ceftriaxone sodium at the dose rate of 25 mg/kg body weight for five days, meloxicam at the dose rate of 0.2 mg/kg body weight for three days, and ciprofloxacin eye drops were instilled into the conjunctival sac for 10 days.

#### OUTCOME OF THE CASE

The animal was able to close its eyelids by second postoperative day and excess lacrimation and conjunctival inflammation disappeared by fourth postoperative day. By 10<sup>th</sup> postoperative day, the dog was able to close its third eyelid normally and no complications were reported during an observation period of six months.

In the present case, the etiological factor for laceration was trauma due to dog bite. This was in agreement with the statement of Maggs, who reported that, injuries to third eyelid in animals might occur due to trauma caused by infighting, foreign bodies, etc. [1].

In the present case, signs of ocular discomfort such as ocular pain, lagophthalmos, epiphora and conjunctivitis noticed were due to injury of the third eyelid. Similar symptoms were also observed by Ramani *et al.* in dogs affected with eversion of third eyelid [2].

Surgical reconstruction was carried out in the present case, as the laceration was deeper involving the free margins causing free flaps. Maggs also asserted that minor injuries of third eye could be left unsutured while deep injuries involving the margins should be sutured [1]. Simple continuous suture pattern was followed in the present case whereas horizontal mattress pattern was followed by Stuhr *et al.* in repair of third eyelid lacerations in three birds [3]. Appropriate alignment of wound edges and proper postoperative care taken in the present case ensured an excellent recovery.

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