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SURGICAL REMOVAL OF CORNEAL FOREIGN BODY IN A NON-DESCRIPTIVE DOG

Manju A.*[1], Gurunathan N.[1], Tina Roshini S.[2], Vigneswari M.[2] and Aruljothi N.[2]

[1]Rajiv Gandhi Institute of Veterinary Education and Research, Puducherry-605009.
[2]Department of Veterinary Surgery and radiology.

***Corresponding Author: Dr. Manju A.**

Rajiv Gandhi Institute of Veterinary Education and Research, Puducherry-605009.

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ABSTRACT

A five-year old intact male non-descriptive dog was presented to the Department of Veterinary Surgery and Radiology, VCC, RIVER with a history of ocular discharge, redness and constant rubbing of right eye for last one week. On clinical examination, all vital parameters were within normal range. On direct ophthalmic examination, there was scleral hyperemia and serous discharge in the right eye, a brown colored foreign body entrapped in the cornea was noticed at 9'oclk position. There was localized corneal opacity around the foreign body. The menace response, palpebral, direct and consensual pupillary light reflexes were present in both eyes. Schirmer tear test values were 22 and 12 mm/min in right and left eyes, respectively. Fluorescein staining was positive surrounding the foreign body in the right eye. Both the eyes were examined under indirect ophthalmoscope which revealed no abnormalities following application of 0.5% tropicamide. Under general anesthesia, corneal foreign body (grass awn) was removed using corneal forcep. Cornea was sutured using polyglactin 910 size 5-0 in simple interrupted pattern. Cornea was protected by third eyelid closure using polyglactin 910 size 5-0. Temporary tarsorrhaphy was done on right eye. Post operatively, topical and oral antibiotics were administered. On 10th post-operative day, temporary tarsorrhaphy was removed and corneal healing was noticed. Animal made an uneventful recovery.

KEYWORDS: Cornea, foreign body, third eyelid closure, dog.

INTRODUCTION

The cornea is a frequent site of trauma because of its exposed position (Criden and Katz *et al*., 2009). Ocular injuries due to accidental contact with plant foreign bodies such as cactus spines, rose thorns, grass awn etc are most commonly seen in dogs or cats (Brennan and Ihrke 1983; Dean, 2004). Other foreign bodies include plastic, glass, pellets, bristles, thorns, small stones and popcorn kernels. Foreign bodies may affect either the corneoscleral surface or the bulbar fornix behind the eyelid or third eyelid. Minor injuries may heal without treatment by formation of scar tissue which can lead to decreased vision. More serious injuries may require surgery. The present case discusses the successful removal of corneal foreign body in a non-descriptive dog.

MATERIALS AND METHODS

A five-year old intact male non-descriptive dog weighing around 15 kg was presented to the Department of Veterinary Surgery and Radiology, Veterinary Clinical Campus, RIVER with a history of ocular discharge, redness and constant rubbing of right eye for last one week. On direct ophthalmic examination, a brown colored foreign body was entrapped in the cornea at 9'oclk position (Fig.1). A localized area of opacity could be noticed in the area of entrapment of foreign body and there was scleral hyperemia and serous discharge in the right eye (Fig.2). The menace response, palpebral, direct and consensual pupillary light reflexes were present in both eyes. Schirmer tear test values were 22 and 12 mm/min in right and left eyes, respectively. Fluorescein staining was positive surrounding the foreign body in the right eye. Both the eyes were examined under indirect ophthalmoscope which revealed no abnormalities following application of 0.5% tropicamide. All other vital parameters were within normal range.

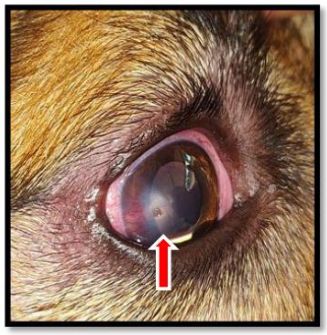

Fig.1: A brown colored foreign body was entrapped in the cornea at 9'oclk position

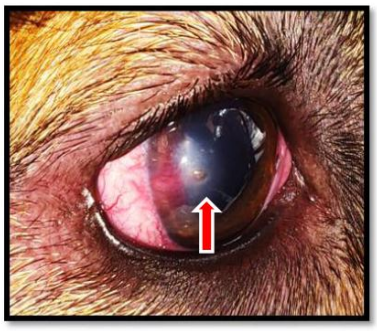

Fig.2 A localized area of opacity with entrapment of foreign body and scleral hyperemia

SURGICAL PROCEDURE

The animal was anaesthetized using inj. diazepam @ 0.5mg/kg b. wt. IV as a premedication followed by inj. Xylazine @ 1mg/kg b.wt. and inj. Ketamine @ 5mg/kg b.wt. IV as a general anesthesia. A small nick was made over foreign body site using B.P blade no.11 and foreign body-grass awn was removed using corneal forcep (Fig.3). The eye was lavaged with normal saline, corneal layer was apposed using polyglactin 910 size 5-0 in simple interrupted pattern. The cornea was protected by third eyelid flap using polyglactin 910 size 5-0 (Fig.4) followed by temporary tarsorrhaphy was done using silk size 0 (Fig.5). Suture was removed on 10th post-operative care which revealed corneal healing (Fig.6). The retrieved foreign body was a grass awn which is 2mm in length (Fig.7). The grass awn was seen lodged in an oblique position penetrating the cornea. After the removal of grass awn, there was no oozing of aqueous humor suggesting a partial thickness penetration of cornea. Post-operative management include the application of ointment Chloromycetin eye applicap BID for 10 days; systemic broad spectrum antibiotic tab. Cefpodoxime @ 10mg / kg b.wt. P. O for 5 days. Owner was advised to apply an E-collar to prevent self-inflicted eye injury. The corneal opacity was reduced and vision acuity was clear on day of suture removal (Fig.6). Timely removal of the grass awn with minimal manipulation led to prevention of corneal opacity, corneal perforation and infection.

Fig.3: A nick was made on foreign body site

Fig.4: Cornea was protected by third eyelid flap technique

Fig.5 Temporary Tarsorrhapy

Fig.6: Post Operative care on 10th day

Fig.7: Retrieved foreign body -Grass awn

Fig.8: Grass awn 2mm in length

DISCUSSION

Ocular plant foreign bodies mainly reported were grass awn, cactus spine etc (Marchegiani *et al.*, 2017). Regardless of the nature of the foreign body, the presenting ophthalmic disease is highly variable, depending on the interval between trauma and presentation, degree of anterior or posterior segment penetration, retention or loss of FB (Essex *et al*., 2004). Ocular reaction to FBs is variable depending on the size, localization, degree of anterior and posterior segment penetration and mechanical irritation (Greven *et al*., 2000). Superficial and penetrating corneal foreign bodies may be removed using various techniques, including dislodging with cotton-tipped applicators, needles, hydropulsion or extraction using metal forceps (Williams *et al*., 2014). The extend of complication after the removal of foreign body mostly depends on the depth of penetration of the cornea, the type of foreign body and the technique adopted for removal of foreign body (Greven *et al*., 2000). In this case, the foreign body was grass awn which was loosely embedded and was removed using corneal forcep followed by third eyelid flap and temporary tarsorrhaphy. The advantage of flap technique is that the flap moves in concert with the globe, minimizing corneal trauma (Gelatt *et al*., 2013) which aids in corneal healing.

CONCLUSION

Corneal foreign body is a more common in dogs due its playfulness. Timely intervention of removing the foreign body by surgical procedure helped in preventing complications like secondary infections, corneal perforation and corneal opacity in this case.

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