INCIDENCE OF CORNEAL ULCER IN DOGS - A RETROSPECTIVE STUDY

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ABSTRACT

The incidence of corneal ulcers were obtained for a period of two years from October 2009- to September 2011 after scrutinizing the hospital record at ophthalmology unit, Department of Veterinary Surgery and Radiology, Madras Veterinary College Teaching Hospital. A higher incidence of ulceration of the cornea was observed in the pug breed of dog aged less than a year.

Keywords: Incidence, corneal ulcer, dogs.

INTRODUCTION

Corneal ulceration, or ulcerative keratitis, is one of the most common extra ocular disease identified in dogs. A corneal ulcer when present resulted in a break in the corneal epithelium that exposed the underlying corneal stroma (Slatter and Hakason 1993). Clinically this was characterised by varying degrees of lacrimation, blepharospasm, photophobia, conjunctival hyperemia, corneal oedema, and possibly miosis and aqueous flare, and was determined by the retention of topically applied fluorescein dye by the corneal stroma. (Gelatt. 2000). A detailed ophthalmic examination with indirect ophthalmoscope revealed involvement of stroma which was confirmed with the help of fluorescein dye test. (Miller 2001). This test also classifies different type of corneal ulcers. Based on the depth of corneal involvement as superficial ulcer and deep ulcer, uncomplicated superficial ulcer heal rapidly, with normal scar formation, complicated deep ulcers, (Fig 1) such as those with microbial infection, however may lead to impaired vision. Glove and Constatinescute (1997) reported that the cornea along with the lens focused light on to the retina to produce a combined refractive capacity of approximately 60 Diopter, out of which cornea accounts for 40 Diopter due to its curvature and high refractive index. Hence from the refraction point of view corneal pathologies are to be treated. This document presents a retrospective study on the incidence of corneal ulcer causing corneal pathology in dogs at Madras Veterinary College Teaching Hospital, Chennai.

MATERIAL AND METHODS

Medical records and diagnostic ophthalmoscopic tests performed in dogs presented to the small animal ophthalmology unit of Madras Veterinary College, Chennai over a period of 24 months (Oct 2009-Sep 2011) for condition related to the eye were considered. A total of n = 3650 dogs were screened in this study. Among this 526

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dogs belonged to corneal pathology disorders. Detailed ophthalmic examination with direct and indirect ophthalmoscopy were performed to diagnose the corneal constituent pathology and later confirmed with fluorescein dye test (Fig 2) for incidence of corneal ulcer. The incidence of corneal ulcers causing corneal pathology with reference to age, breed, gender, and involvement of one or both the eyes were analysed and presented.

**RESULT AND DISCUSSION**

A total of 3650 dogs were presented to small animal ophthalmology unit with ophthalmological complaint during the period of 24 month (Oct 2009-Sept 2011) out of which 526 (14.4%) dogs were related to corneal pathology due to corneal ulcer based upon routine ophthalmic diagnostic methods and the remaining (85.6%) 3124 were presented for other ocular pathology at Madras Veterinary College Hospital. Fluoroscopic examination confirmed the presence in 526 dogs (14.4%). This differed from findings of Jose Mathew Ancheril (2004) who found the year wise incidence of corneal ulcer to average 8.04%.

In the age wise distribution, the dogs in the age group of 3 month to 3 year had the highest incidence of corneal ulcers 63.35%, 3-7 year age group had 21.7%, 7-10 year age group had 5.15% and 10-15 year age group had 9.3% corneal ulcers, whereas, Moore(2003), had reported the corneal ulcer incidence was high in middle aged dogs with a mean age of 8.2 year. Wilkie and Whittaker (1997) reported that older dogs appeared predisposed and yet dogs of any age could be affected.

Out of 526 dogs related to corneal pathology due to corneal ulcer 283 (53.8%) were bilateral and the remaining 243 (46.2%) were unilateral.

**CONCLUSION**

In the present study, a higher incidence of corneal ulcer was found to occur in Pug breed of dogs (37.26%). This higher incidence could be due to its brachiocephalic nature with protruded eye ball. Apart from this the hairs projecting from the facial fold and relatively low corneal sensitivity were also other attributing reasons. The increased incidence in this breed in the present study when compared to a study done during 2002 in the same unit could be due to increased prevalence of the Pug breed. Thus the present study documented the need for periodical ophthalmic evaluation in this breed especially below one year age group.

**ACKNOWLEDGEMENT**

The authors are grateful to the Dean, MVC, TANUVAS for the facilities provided for the study.
REFERENCES


Fig 1 Deep corneal ulcer

Fig 2 Fluorescent dye test