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Incidence of Ophthalmic Affections in Dogs – A Short Study

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A B S T R A C T

Ophthalmic affections in dogs reported in Veterinary Clinical Complex, LUVAS, Hisar were investigated for a period of one year. The occurrence of different ophthalmic conditions was analysed in different affected age group, sex and breed of dogs. Out of total 4500 clinical cases of dogs (60) sixty cases of ocular affections were reported with maximum incidence of Pigmentary Keratitis and Corneal Ulcer/Eye Injury. Pugs, non-descript breeds and Labrador recorded highest incidence of ocular affections with maximum cases in young age group.

Introduction

Eye is very sensitive organ, the function of which may be affected even with mild insult to its homeostasis, due to direct injury or due to other local or systemic diseases and hence studies on ocular affections may provide information on prevalence of ocular diseases and also help to limit diagnostic possibilities and treatment options (Andrade *et al.*, 2005, Balagopalan *et al.*, 2016). Hence the objective of the present study was to record incidence and pattern of distribution of various types of ocular affections in dogs of this area. Ocular affections are of common occurrence in animal patients and their diagnosis and management throws up a challenge for the veterinarians unless they are adequately equipped with instrumentation and sound knowledge to deal with these affections. In India ophthalmology remains the domain of general veterinary surgeon, therefore with few exceptions, the important field remains more or less neglected. So this study was planned to assess the magnitude of ocular problems in dogs in this part of the country and their management.

Materials and Methods

The study was conducted to find out the occurrence of ocular affections with respect to breed, age and sex of animal and type of affections in dogs brought to the Veterinary

Clinical Complex (VCC), LUVAS, Hisar during a period of one year (July 2017 to June 2018). General clinical examination and detailed ophthalmic examination with direct and indirect ophthalmoscopy along with schirmer tear test and tonometery was performed to diagnose the conditions.The incidence of different ocular affections with reference to age, breed and sex were recorded and analyzed.

Results and Discussion

During a period of one year, a total of four thousand five hundred (4500) clinical cases of dogs having different clinical affections were reported at VCC, LUVAS-Hisar, out of which sixty (60) dogs were presented with ophthalmological complaints. Incidence of eye affections in dogs was found to be 1.33%. Out of 60 dogs with ocular affections, 39 (65%) were male and rest 21 (35%) were female (Table 1). Majority of the ophthalmic affections were recorded in younger age group i.e. 0-3yrs age group (51.7%) followed by 3-6yrs (36.7%) and 6-9yrs (11.6%) (Table 2) which may be attributed to the playful nature of young ones which make them more prone to traumatic injuries and excessive attention resulted into more presentation in the clinics for veterinary care. Breed wise distribution of cases (Table 3) showed maximum prevalence of eye affections in Pugs (28.3%) followed by Non-descript breeds (21.7%) and Labrodor (20%). Ocular affections were also reported in other breeds like Spitz (15%), German Shepherd (11.7%) whereas Bully breed had the least incidence (3.3%) of ocular affections.

Depending on the type of lesions ocular affections were divided into different categories (Table 4). Out of total Sixty (60) reported cases, maximum cases were of Pigmentary Keratitis/ Keratoconjunctivitis (21.7%) and of Corneal Ulcer/Injury (21.7%) followed by Corneal Opacity (18.3%), Epiphora (11.6%) and Cloudy eye (8.3%). Cataract and Blepharitis showed 6.7% of occurrence along with dry eye (5%) reported during the study period. Breed wise data revealed that Pigmentary Keratitis/ Keratoconjunctivitis was more common in pugs whereas Corneal Injury was recorded maximum in non-descript breeds and pugs. Incidence of corneal opacity and cataract was higher in Labrador and German Shepherd dogs. Interestingly present study recorded maximum cases of ocular affections in Pugs and clinical categorization too revealed majority of the cases were of Pigmentary Keratitis/ Keratoconjunctivitis.

Present report of ophthalmic affections in dogs from this part of the country is first of its type and it includes one-year data. With the incidence of ocular affections to be 1.33% in the present study it was observed that dogs presented with ocular affections are increasing with time in this institution probably due to increase in awareness on the part of dog owners in this area as well as increase in use of advanced diagnostic aids like ophthalmoscopes, tonometers and other specific diagnostic tests. Akinrinmade and Ogungbenro in 2015 reported 6.62% incidence of eye affection in dogs from Nigeria between 2003 and 2013, whereas Tyagi in 2009 recorded 8.96% incidence of eye infections in dogs, which is higher as compared to the present findings. The sex wise distribution of ocular affections is contrary to the findings of Akinrinmade and Ogungbenro (2015) as they reported more eye infections in females (42.42%) as compared to males (35.49%). Tamilmahan *et al.,* (2013) and Antonia *et al.,* (2014) recorded similar findings as of the present study with maximum incidence of eye diseases in male dogs as compared to female. The reason could be preference for male dogs as pets in the particular area and their increased socializing behaviour than the female dogs (Fig. 1 and 2).

Table.1 Sex wise distribution of ocular affections

Sex	Number	Percentage
Male	39	65%
Female	21	35%

Table.2 Age wise prevalence of ocular affections

Age group	Number	Percentage
0-3yrs	31	51.7%
3-6yrs	22	36.7%
6-9yrs	7	11.6%

Table.3 Breed wise prevalence of ocular affections

Breeds	No. of dogs	Percentage
Pug	17	28.3%
Non-descript	13	21.7%
Labrador	12	20%
Spitz	9	15%
German shepherd	7	11.7%
Bully	2	3.3%

Table.4 Incidence of common ocular affections during July2017 to June 2018

Affections	Number	Percentage
Keratitis (pigmentary) / Keratoconjunctivitis	13	21.7%
Corneal Ulcer/Injury	13	21.7%
Corneal Opacity	11	18.3%
Epiphora	7	11.6%
Cloudy eye	5	8.3%
Cataract	4	6.7%
Blepharitis	4	6.7%
Dry Eye	3	5%
Total	60	100%

Fig.1 Keratoconjunctivitis in pug

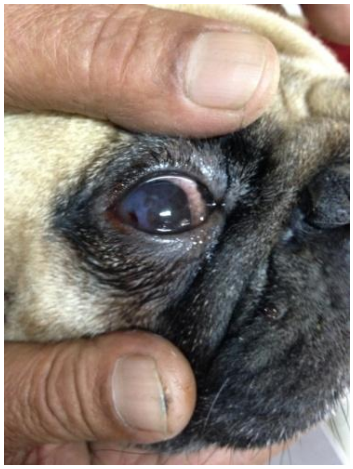
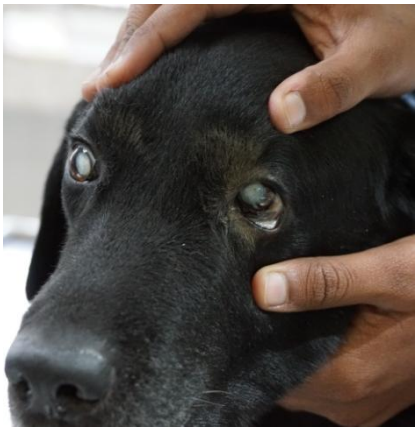


Fig.2 Eye cataract in Labrador



Age wise distribution of ocular affections showed majority of opthalmic affections in younger age group i.e. 0-3yrs age group (51.7%). Akinrinmade and Ogungbenro (2015) recorded similar findings and they documented (90.47%) cases in dogs less than 5 years of age whereas Tyagi (2009) and Tamilmahan *et al.,* (2013) both reported increased incidence of eye cases in dogs more than 5 years of age. The higher incidence in younger age group in the present study may be attributed to the playful nature of young ones which make them more prone to traumatic injuries and excessive attention resulted into more presentation in the clinics for veterinary care.

Contrary to our findings of breed wise distribution of cases of ocular affections, Akinrinmade and Ogungbenro (2015) reported Alsatian to be the most affected breed (22.08%), but from India many authors like Sarangom *et al.,* (2012), Ramani *et al.,* (2012) and Antonia *et al.,* (2014) reported Chinese Pugs as the most affected breed. This may be due to more popularity of this breed in this region as well as anatomical peculiarities that make this breed more prone to ocular affections.

Out of total Sixty (60) reported cases, maximum cases were of Pigmentary Keratitis/ Keratoconjunctivitis (21.7%) and of Corneal

Ulcer/Injury (21.7%) followed by Corneal Opacity (18.3%), Epiphora (11.6%) and Cloudy eye (8.3%). Clinical categorization by Akinrinmade and Ogungbenro (2015) revealed highest incidence of conjunctivitis (30.30%), followed by proptosis/edema/ swelling of the eye (22.94%) and corneal opacity (11.69%), whereas Sale *et al.*, (2013) and Tyagi (2009) reported age-related cataract as most common ocular affection in dogs. Although Kalaiselvan *et al.*, (2009) reported traumatic injuries as the major causes of ocular affections.

Breed wise data revealed that Pigmentary Keratitis/ Keratoconjunctivitis was more common in pugs whereas Corneal Injury was recorded maximum in non-descript breeds and pugs. Incidence of corneal opacity and cataract was higher in Labrador and German Shepherd dogs.Interestingly present study recorded maximum cases of ocular affections in Pugs and clinical categorization too revealed majority of the cases were of Pigmentary Keratitis/ Keratoconjunctivitis. This higher incidence could be due to its brachiocephalic nature with protruded eye ball making the eye exposed to different allergens, dust particles etc. Apart from this abnormal tear film composition may also be one of the reason for pugs susceptibility as suggested by Krency *et al.*, (2015).

Based on the results of the present study, it can be concluded that Keratoconjunctivitis and corneal injury are the two important ocular affections in dogs of this region with maximum cases in Pug and Non-descript breed. Further studies need to be undertaken to investigate the detailed aetiology of ocular abnormalities in pugs and other breeds with therapeutic management.

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