OCULAR AFFECTIONS IN DOGS – A STUDY OF TWELVE MONTHS

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The present study was conducted on the dogs presented to the Veterinary College Hospital, Hebbal, Bengaluru over a period of one year during 2020-21. The age-wise, gender-wise, breed-wise, and etiology-wise occurrence of different ophthalmic affections was evaluated during this period. Out of the 8,623 cases of dogs evaluated, 251 dogs had ocular diseases. The overall percent occurrence of ocular diseases during this period was 2.91 percent. Corneal ulcer (31.12%) was the most common ocular disease. The percent occurrence of ocular diseases was highest in dogs less than 1 year of age (42.63%). Male (50.99%) and female (49.01%) dogs were affected with ocular affections in almost equal proportions. Among different breeds, the highest percent of ocular diseases was seen in Shih-Tzu (39.07%) followed by Pugs (23.94%) and Labrador retrievers (21.85%). Acquired conditions (93.38%) of ocular diseases were more common than congenital disorders (6.62%).

Keywords: Corneal ulcer, Dogs, Ocular affections.

Canine eye is an immune-privileged organ having systems to prevent and regulate the local immune response (Dall'Ara and Turin, 2019). In a study, it was discovered that among all species, equine was most affected (7.84%), followed in decreasing order by feline (3.03%), avian (2.56%), canine (2.26%), ovine (2.18%), bovine (1.42%) and caprine (1.12%) (Ather *et al*., 2018). Dogs can suffer from a variety of eye conditions, but some of the most prevalent are cataracts, glaucoma, corneal dystrophy, cherry eye, uveitis, corneal opacity, and lens luxation (Pandey *et al*., 2018). The goal of the current study was to document the prevalence and pattern of distribution of different ocular diseases in dogs.

Materials and Methods

To ascertain the incidence and pattern of distribution of ocular diseases in dogs that were diagnosed and treated during the year, from 2020 to 2021, medical data from the dogs brought to the Veterinary College Hospital, Hebbal, Bengaluru, were obtained. Using a descriptive statistical tool, information regarding age, breed, sex, anatomical location of the lesion, and clinical categorization of the lesion was recorded, compiled, and analysed.

Results and Discussion

Occurrence of ocular affections in dogs: There were 8,623 dog cases in total that were brought to the Veterinary College Hospital, Hebbal, Bengaluru. Of these, 251 case records involved ocular diseases in dogs, with an overall prevalence of 2.91% (Fig. 1).The present study was in accordance with the study conducted by Pandey *et al*. (2018), Patel *et al*. (2020) and Soundarya *et al*. (2020), who recorded the occurrence rate of 1.39%, 1.33%, 4.28%, and 1.26% respectively. However, 6.62% of occurrence was reported in another study conducted by Akindrinmade and Ogungbenro (2015).

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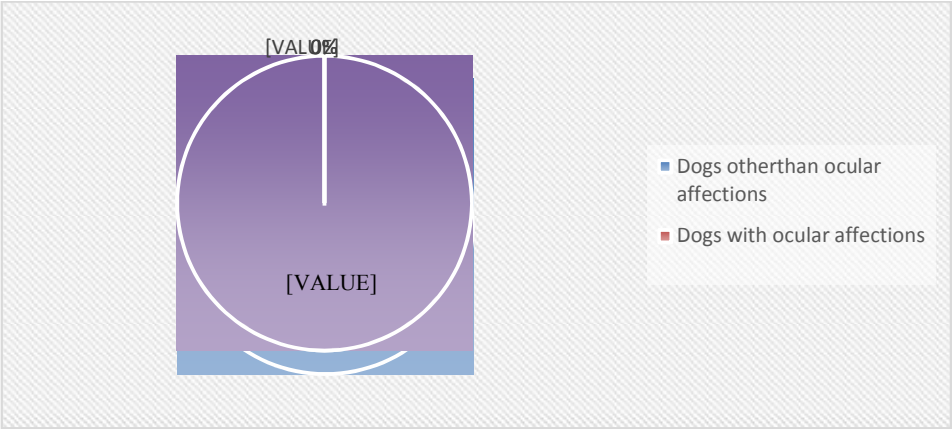

Fig. 1. PIE DIAGRAM SHOWING OCCURRENCE OF OCULAR AFFECTIONS IN DOGS

Different ocular diseases: In the present study,corneal ulcer (31.12%) was more prevalent, followed by Cherry eye (24.50%), Conjunctivitis (22.51%), Cataract (19.20%), Corneal opacity (9.93%), Proptosis (9.27%) etc. (Table. 1). In contrast to the present study, Soundarya *et al*. (2020) recorded conjunctivitis was the most common ocular disease. Similarly Pandey *et al*. (2018) observed that cataract was the most common ocular affection, followed by the corneal ulcer. Similarly the highest cases of corneal melanosis followed by corneal ulcer and cataract were observed by Patel *et al*. (2020). The inherent lower sensitivity of cornea in brachycephalic dogs breeds negatively affect the function of cornea protective mechanisms, which leads to traumatic injuries to the cornea, which may result in ulcer formation go unnoticed by owners.

Table. 1. OCCURRENCE OF DIFFERENT OCULAR AFFECTIONS; NUMBERS AND THEIR PERCENTAGE

Sl. No.	Ocular affection/s	Number of cases	Percentage (%)
1.	Corneal ulcer	47	31.12
2.	Cherry eye	37	24.50
3.	Conjunctivitis	34	22.51
4.	Cataract	29	19.20
5.	Corneal opacity	15	9.93
6.	Proptosis	14	9.27
7.	Entropion	9	5.96
8.	Glaucoma	7	4.63
9.	Pigmentary keratitis	7	4.63
10.	Dermoid cyst	4	2.65
11.	Keratoconjunctivitis sicca (KCS)	4	2.65
12.	Uveitis	3	1.98
13.	Pigmentary keratitis + Corneal ulcer	3	1.98
14.	Pan ophthalmitis	3	1.98
15.	Ectropion	3	1.98
16.	Cataract +	3	1.98

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	Pigmentary keratitis		
17.	Corneal ulcer + Keratitis	2	1.32
18.	Chemosis	2	1.32
19.	Lens luxation	2	1.32
20.	Eye wart	2	1.32
21.	Eyelid tumour	2	1.32
22.	Dermoid + Corneal ulcer	2	1.32
23.	Congenital blindness	1	0.66
24.	Bilateral microphthalmos	1	0.66
25.	Conjunctivitis + Corneal opacity	1	0.66
26.	Glaucoma + Corneal opacity	1	0.66
27.	Congenital corneal opacity	1	0.66

Sex-wise occurrence of ocular diseases: The occurrence of ocular affectionswas almost same both in the male (50.99%) and female (49.01%) dogs, with marginally higher occurrence in males (Table. 2). This finding was in accordance with the findings of Patel *et al*. (2020). Pandey *et al*. (2018) and Soundarya *et al*. (2020) also recorded the higher occurrence of ocular affections in males than the females. In contrast, Akindrinmade and Ogungbenro (2015) recorded the predominant occurrence of ocular affections in females. The present study describes that there was no sex predilection seen in cases of ocular affections in dogs.

Table. 2. GENDER-WISE OCCURRENCE OF OCULAR AFFECTIONS IN DOGS

Gender	Number of cases	Percentage (%)
Male	128	50.99
Female	125	49.01

Breed-wise occurrence of ocular diseases*:* In the present study, the toy breeds of dogs were most frequently affected.The occurrence of ocular affections was highest in Shih-Tzu (39.07%) breed of dog, followed by Pug (23.94%), Labrador Retriever (21.85%), non-descript (19.87%), Beagle (9.93%), Pomeranian (9.93%) etc. (Table. 3). Although, Akindrinmade and Ogungbenro (2015) also observed higher occurrence of ocular affections in Alsatian breed of dog, contrary to us Pandey *et al*. (2018) and Soundarya *et al*. (2020), recorded more cases in non-descript dogs. Most people prefer to keep small breeds of dogs such as Shih Tzu, Pug, Pomeranian, and Beagle in metropolitan city like Bengaluru as their maintenance is easy and space requirementis less and thus more number of toy breed reported in clinics, which may be the cause for the higher incidence of ocular affections in toy breeds

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Table. 3. BREED-WISE OCCURRENCE OF OCULAR AFFECTIONS IN DOGS

Breed	Number of cases	Percentage (%)

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Shih-Tzu	59	39.07
Pug	36	23.94
Labrador Retriever	33	21.85
Non-descript	30	19.87
Beagle	15	9.93
Pomeranian	15	9.93
Golden Retriever	11	7.28
Rottweiler	8	5.3
Siberian Husky	7	4.63
Cocker Spaniel	7	4.63
Dachshund	6	3.97
Pitbull	5	3.31
Great Dane	4	2.65
American Bulldog	3	1.98
Saint Bernard	2	1.32
Dobermann	2	1.32
German Shepherd	2	1.32
French Bulldog	2	1.32
Chow Chow	1	0.66
Basset Hound	1	0.66
Boxer	1	0.66
Irish Setter	1	0.66

Age-wise occurrence of ocular diseases: Highest incidence of ocular affections were noticed in dogs of up to 1 year of age (42.63%), followed by >1 year – 3 years (31.79), >7 years – 10 years (25.16) etc. (Table. 4). Similar observations were made by Akindrinmade and Ogungbenro (2015), Krecny *et al*. (2015), Patel *et al*. (2020) and Soundarya *et al*. (2020) who recorded that the dogs of < 1 year of age were more commonly affected with ocular affections. Contrary to us Pandey *et al*. (2018) recorded higher incidence in dogs of 6-10 years. This may be attributed to the playful nature of younger dogs which made them more prone to traumatic injuries.

Table. 4. AGE-WISE OCCURRENCE OF OCULAR AFFECTIONS IN DOGS

Age	Number of cases	Percentage (%)
Upto 1 year	107	42.63
>1 year – 3 years	48	31.79
>3 years – 5 years	27	17.88
>5 years – 7 years	23	17.22
>7 years – 10 years	38	25.16
>10 years	8	5.30

Aetiology-wise occurrence of ocular diseases: Majority of ocular affections reported were of acquired nature which accounted for 93.38 per cent of the cases (Table. 5).

Table. 5. AETIOLOGY-WISE OCCURRENCE OF OCULAR AFFECTIONS IN DOGS

Aetiology	Number of cases	Percentage (%)

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Acquired		141	93.38	
Congenital	Dermoid cyst	6	3.97	6.62
	Congenital blindness	1	0.66	
	Bilateral microphthalmos	1	0.66	
	Congenital corneal opacity	1	0.66	
	Buphthalmia	1	0.66	

Conclusion

Ocular affection occurred in 2.91% of the dogs reported for treatment in the clinics. Shih-Tzu dogs were more likely to have ocular conditions. The most frequent ocular condition was corneal ulcer. There was no gender predilection for ocular illnesses, and dogs under 1-year-old were more frequently diagnosed with ocular.

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