

STUDY ON OCCURRENCE OF CATARACT IN DOGS

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Abstract: A study was conducted on the occurrence of cataract in dogs presented to the Veterinary College Hospital, Hebbal, Bangalore was undertaken for a period of two years from November 2016 to October 2018. The total numbers of dogs presented were 20546. Out of these, the dogs with cataract were 57 (0.28%). Breed-wise prevalence of cataract was highest i.e., twenty three in Labrador retriever (40.36%). With regard to the age group, the highest incidence of cataract (26.31%) was seen in 9–11 years of age group. The average age of dogs with cataract was 7.38 years. The incidence rate was comparatively high in males (56.14%) than females (43.86%).

Keywords: Dogs, Incidence, Cataract, Lens, Ophthalmoscopy, Vision function tests.

INTRODUCTION

Cataract is defined as any opacification of the lens, regardless of cause, size or location (Nasisse, 2001), which impairs vision from 1 to 100 percent depending on the type of cataract (Patil *et al.*, 2014). The incidence of lens affections in dogs is as high as 34% (Sale *et al.*, 2013). Williams *et al.* (2004) reported that cataract worsens with age, and all dogs above 13.5 years of age were affected with some degree of lens opacity. The mean age of the nondiabetic dogs was 7.54 years and that of the diabetic dogs was 9.90 years (Bagley and Lavach, 1994). Common causes of canine cataract include heredity, diabetes, systemic drug toxicity, secondary to other eye diseases, traumatic eye and the age (Kanemaki *et al.*, 2012). Commonly affected breeds include the American cocker spaniel, poodle, Boston terrier, miniature Schnauzer, Bichon Frise, and Labrador retriever (Cook, 2008). Present study was conducted to get an idea of incidence of cataract cases in Bangalore, Karnataka.

MATERIALS AND METHODS

The study was conducted in dogs presented to the Department of Veterinary Surgery and Radiology, Veterinary College, KVAFSU, Hebbal, Bangalore for a period of two years from

November 2016 to October 2018. The dogs presented with the history of hitting the objects while walking and also to the wall, whiteness inside the eyes and few owners complained about failure to catch food items by few height. The occurrence of cataract with reference to age, breed, gender, stage of cataract and involvement of one or both eyes were analyzed and presented.

RESULTS AND DISCUSSION

The total numbers of dogs presented to the Veterinary College Hospital, Hebbal, Bangalore during the period from November 2016 to October 2018 were 20546. Out of these, 57 dogs (0.28%) were presented with Cataract. Similarly Nair and Vasanth (2007) have reported an incidence of 0.29%, Hmar (2014) and Madan (2015) reported 0.40%, Amitha (2015) reported 0.16%. and Suresh (2018) reported 0.21%. The incidence reported in our study was less when compared to that reported by Nitin (2013) where 23.81% of cases presented over a period of 12 months were found to suffer from cataracts and associated signs, Ramani *et al.* (2013) reported 23.12% and Rambabu *et al.* (2017) reported 14.96%. The differences in the rates of incidence could be attributed to the differences in season of the study. Breed wise, highest incidence of cataract recorded in Labrador retriever (40.36%), followed by Pomeranian (28.08%), Non descript (10.53%), German shepherd, Golden retriever and Pug (3.51%) and Siberian husky, Shih Tzu, Lhasa apso, Cocker spaniel, Dalmatian and Mudhol hound (1.75%) (Fig 1 and Table 1). Similarly Hmar (2014) and Madan (2015) were reported 19.51%, Amitha (2015) reported 21.74%, and Kumar *et al.* (2017) reported 23.33% in Labrador retriever breed of dog. This could be due to prevalence of Labrador retriever breed more in this region.

In this study, the age group categorized in to 0-3 years, 3-5 years, 5-7 years, 7-9 years, and 9-11 years and more than 11 years, the highest occurrence of 26.31% of cataract was seen in 9 – 11 years of age group, followed by 21.05% in 5 – 7 years of age group, 17.54% cases in 0 – 3 years of age group, 14.03% cases in 7 – 9 years of age group, 12.28% cases in 3 – 5 years of age group, and 8.79% cases in more than 11 years age group. The average age of dogs with cataract was 7.38 years (Table 2).

Similarly Bagley and Lavach (1994) reported that the mean age of nondiabetic dogs with cataract was 7.54 years, whereas Amitha (2015) reported the average age of dogs with cataract was 8 years, Hmar (2014) and Madan (2015) were reported 8.04 years and Suresh *et al.* (2018) reported the average age of dogs with cataract was 8.5 years. This might be due to aging of the lens as the year's progresses as also reported by Ofri (2008).

Table 1. Breed wise occurrence of cataract among dogs

| Breed | Number of animals | % |
|--------------------|-------------------|-------|
| Labrador retriever | 23 | 40.36 |
| Pomeranian | 16 | 28.08 |
| Non descript | 6 | 10.53 |
| German shepherd | 2 | 3.51 |
| Golden retriever | 2 | 3.51 |
| Pug | 2 | 3.51 |
| Siberian husky | 1 | 1.75 |
| Shih Tzu | 1 | 1.75 |
| Lhasa apso | 1 | 1.75 |
| Cocker spaniel | 1 | 1.75 |
| Dalmatian | 1 | 1.75 |
| Mudhol hound | 1 | 1.75 |

Table 2. Age wise occurrence of cataract among dogs

| Age (Years) | Number of Animals | % |
|-------------|-------------------|-------|
| 0 – 3 | 10 | 17.54 |
| 3 – 5 | 7 | 12.28 |
| 5 – 7 | 12 | 21.05 |
| 7 – 9 | 8 | 14.03 |
| 9 – 11 | 15 | 26.31 |
| >11 | 5 | 8.79 |

With respect to the gender, incidence rate was found to be highest in males i.e., 56.14% and 43.86% in females (Fig.2). This was in accordance with Ramani *et al.* (2013) who found that the incidence rate was 52.60 % in males and 47.40% in females; Nitin (2013) had reported the incidence of cataract as 51.91% in males and 48.09% in females; Amitha (2015) in her study found 60.87% in males and 39.13% in females; Rambabu *et al.* (2017) reported that the incidence rate was 58.49% in males and 41.50% in females; Suresh *et al.* (2018) reported the incidence rate was 53.60% in males and 46.40% in females. In contrary to this, Hmar (2014) and Madan (2015) in their study found that the incidence of cataract was highest in females

(65.85%) and lowest (34.15%) in males. Nair and Vasanth (2007) also observed a higher incidence among the females (55.56%) than the males (44.44%). The results reveal almost equal chances of cataract formation in both sexes.

Out of 57 cases, 52 dogs (91.23%) were found to have bilateral cataracts and 5 (8.77%) had unilateral cataracts. Among the unilateral, 1 (1.77%) was right eye and 4 (7.00%) cases were left eye (Fig.3). This was in accordance with Nitin (2013) who found that the highest incidence of the 88.89% were bilateral cataracts and 11.21% had unilateral cataracts; Rambabu *et al.* (2017) reported that 77.35% dogs in their study were found to have bilateral cataracts and 22.64% had unilateral cataracts, among the unilateral 44.40% were in right eye and 55.55% cases were in left eye; Kumar *et al.* (2017) also reported that the bilateral cataract was observed in 80% of patients with involvement of left eye in 13.33% and 6.67% right eye. The results suggested higher number of bilateral cases than unilateral cases, though both eyes have equal chance of getting affected.

In this study, mature cataracts had the highest incidence of 85.96% followed by 7.02% as an incipient stage, 3.51% in each as an immature stage and hypermature stage (Fig.4). Similarly, Martins *et al.* (2010) also reported that mature cataracts were the most common (73.2%). Whereas Nitin (2013) and Rambabu *et al.* (2017) recorded 46.9% cases of mature cataract, 28.91% cases of immature cataracts followed by 15.04% of hyper mature cataracts, 9.14% cases of incipient cataracts and 45.91% cases of mature cataracts, 28.30% cases of immature cataracts followed by 16.98% cases of hypermature cataracts and 6.28% cases included those of incipient cataracts and 2.51% as intumescent cataracts.

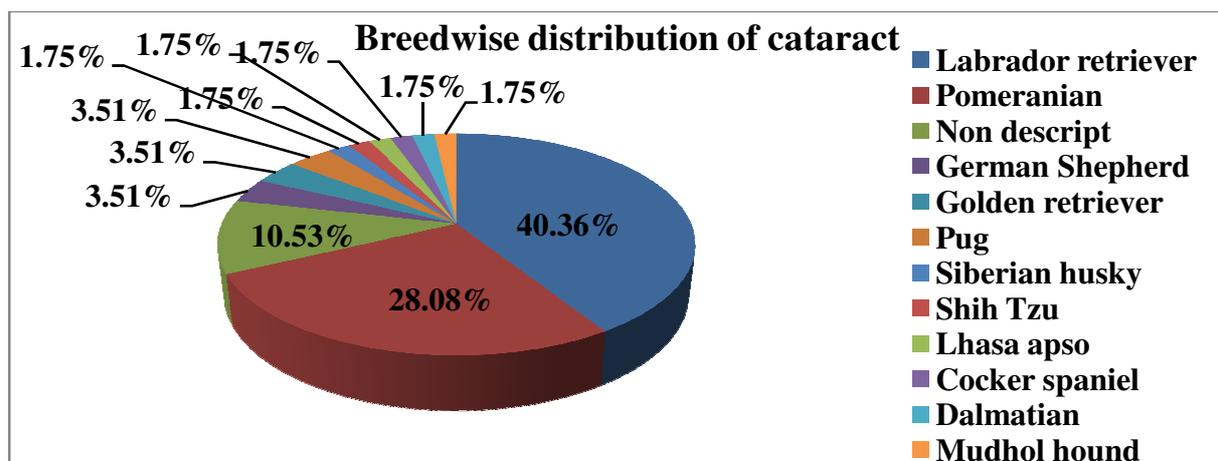


Fig.1 Breed wise occurrence of cataract among dogs

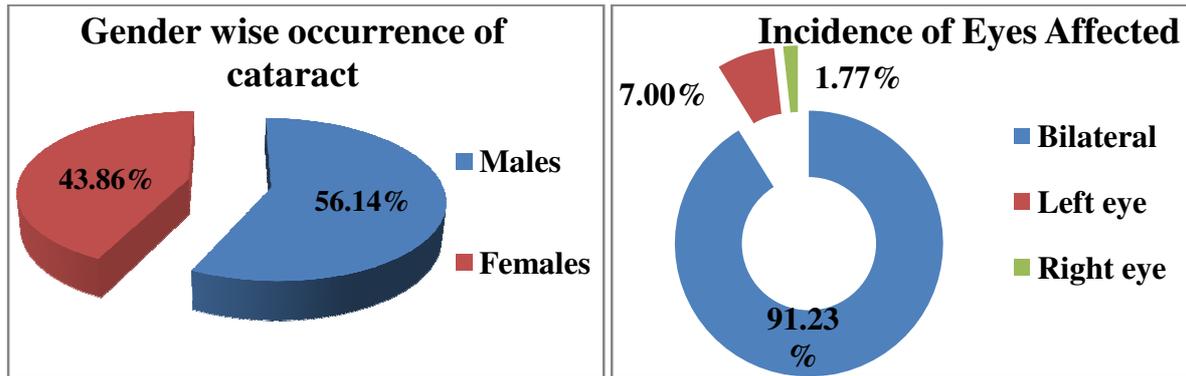


Fig.2. Gender wise occurrence of cataract among dogs

Fig.3 Incidence of Eyes Affected

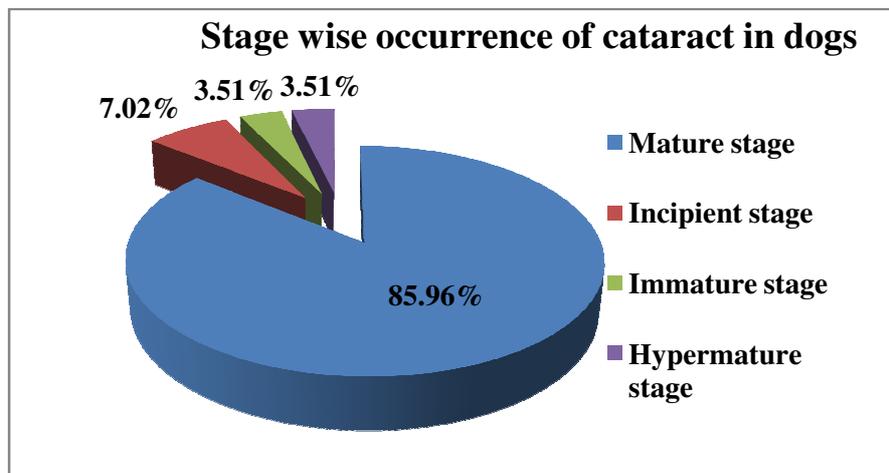


Fig.4 Stage wise occurrence of cataract in dogs

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