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Prevalence study of canine hypothyroidism in Bidar district of Karnataka

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Abstract
The present research study was conducted to record the incidence of Canine hypothyroidism in Bidar. Among the 3620 canine cases examined during the period 2020-2021 were considered for the prevalence study. From the study it was found that the overall prevalence of Canine hypothyroidism in dogs for two years was found to be 0.28 per cent (10/3620). Canine hypothyroidism was most prevalent among 4-6 years age group, female dogs in comparison to male dogs and Labrador retriever breed was found to be more prevalent to Canine hypothyroidism.

Keywords: Canine hypothyroidism, Labrodor retriever, age-wise prevalence, sex wise prevalence

Introduction
Dogs are the one of the oldest domesticated animals in the world. The health status of dog is influenced by its genetics, nutrition, surrounding environment and physical activity. Diseases of dogs may be of various etiologies such as infectious, nutritional, hereditary, metabolic and endocrine. Canine hypothyroidism is the most frequently diagnosed endocrinopathy in dogs. Hypothyroidism is a clinical syndrome resulting from a deficiency of the active thyroid hormones triiodothyronine (tT3) and thyroxine (tT4). Although considered a common endocrine disorder of dogs, its exact prevalence is largely unknown. The reported prevalence ranges from 0.20 to 0.80%. Epidemiological study of Canine Hypothyroidism has been undertaken in many parts of the country and all over the world. However, Review of the available literature indicated paucity of information in Bidar, Karnataka. Hence a study was carried out from January 2020 to December 2021 for prevalence study.

Materials and Methods
The study was conducted in the Department of Veterinary Medicine, Veterinary Clinical Complex, Veterinary College Bidar, Karnataka. Dogs presented to Veterinary Clinical Complex, Veterinary College, Bidar showing clinical signs of Canine hypothyroidism such as obesity, lethargy, inactiveness, exercise intolerance, rat tail appearance, bilateral alopecia, hyperpigmentation, Hyperkeratosis, and recurrent skin infections were screened for thyroid profile and considered for the study.
The present research study was conducted in Bidar during the period 2020-2021. Total 3620 canine cases were examined were for the prevalence study to record the prevalence of Canine hypothyroidism.

Results and Discussion
Prevalence of Canine hypothyroidism in Bidar
In the present study overall prevalence of Canine hypothyroidism in dogs for two years (January 2020-December 2021) was 0.28 per cent (10/3620). Year wise prevalence of hypothyroidism in 2020 and 2021 was found to be 0.23 and 0.31. The results of the present study were in accordance with Ziener *et al.* (2015) [1], Kour *et al.* (2020) [2], Roopali *et al.* (2020) [3], Raja *et al.* (2021) [4].

Age-wise Prevalence of Canine Hypothyroidism
In the present study age-wise prevalence of hypothyroidism was found to be highest in 4–6 years age group dogs, followed by 2-4 years age group (30%) and above 6 years age group (20%) whereas, least incidence (10%) was recorded in the below 2 years age group.

The results of the study were in accordance with Durga (2007) [5], Das *et al*. (2013) [7], Gulzar *et al*. (2014) [8], Kour *et al*. (2020) [2]. The mean age of occurrence of Canine hypothyroidism has been documented as 3-6 years in available literature which correlates with the results of present study (Das *et al*., 2013) [7].

Sex-wise Incidence of Canine Hypothyroidism

In the present study sex wise prevalence of hypothyroidism was found to be highest in females (60%) compared males (40%). Similar findings were observed by Gulzar *et al*. (2014) [8] and Kour *et al*. (2020) [2].

Breed -wise Prevalence of Canine Hypothyroidism

Breed wise prevalence was found to be highest in Labrodor retriever (60%) followed by Golden retriever (20%), Spitz (10%) and Non-descript (10%). Similar findings were observed by Srikala (2010) [6], Gulzar *et al*. (2014) [8], Gupta (2016) [9], Kour *et al*. (2020) [2]. Mooney (2011) [10] reported that breed predisposition in hypothyroidism is mainly due to hereditary and many genetic risk factors responsible for development of disease.

Conclusion

Prevalence study of the disease guides to know the occurrence and pattern of a disease among the animal population. From the present study it is concluded that an overall prevalence of Canine Hypothyroidism was recorded to be 0.28 per cent in Bidar, Karnataka over the period of two years (2020-21). Prevalence of hypothyroidism was found to be highest in dogs aged between 4-6 years. Hypothyroidism was more prevalent in female dogs as compared to male dogs with Labrador breed dogs to be more susceptible to hypothyroidism.

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