



Research Article

PREVALENCE OF CANINE DEMODICOIS IN HYDERABAD OF TELANGANA STATE

LUBNA FATIMA¹, SREENIVASAMURTHY G.S.^{*2} AND UDAYA KUMAR M.³

^{1,2}Department of Parasitology, College of Veterinary Science, Rajendra Nagar, Hyderabad, Telangana

³Department of Parasitology, College of Veterinary Science, Korutla, Jagityala, Telangana

*Corresponding Author: Email-gssmurthy26@rediffmail.com

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Abstract- The present study was conducted to investigate the prevalence of canine demodicosis in Hyderabad, Telangana during the period of March to August, 2016. A total of 146 dogs with dermatological signs were examined for *Demodex* mite infestation from Teaching veterinary clinical complex, pet clinics and Animal birth control centre. The overall prevalence recorded was 11.64% (17/146). Prevalence was higher in males as 64.7% (11/17) than females. Age wise prevalence was higher in 8-12 months group of dogs. High rate of prevalence was observed in Labrador retriever breed of dog.

Keywords- Demodicosis, *Demodex canis*, Prevalence.

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Introduction

Canine demodicosis is a common inflammatory skin condition of dogs characterized by the presence of *Demodex* mite overpopulation and development of cutaneous lesions. [1] An alteration in the immune system of skin or immune suppression allows the mites to proliferate in hair follicles and sebaceous glands. Infection with *Demodex* mites is typically described as localized or generalized demodicosis. Localized demodicosis usually consists of one to several small erythematous, scaly and often hyperpigmented areas of alopecia, most commonly on the face and forelegs. Pruritis in demodicosis is variable but it is complicated by the secondary pyoderma [2].

Materials and Methods

Dogs showing clinical signs like alopecia, itching, erythema, papules and pustules were selected for investigating the prevalence of canine demodicosis. Details like gender, age and breed were noted for the prevalence studies [3]. Deep skin scrapings from the affected dermatological lesions were collected by using rounded scalpel blade no 10 by scrapping the blade back and forth over the skin until capillary bleeding is evident. Acetate tape impressions were collected from the areas of dermatological lesions. The scrapings collected on the scalpel blade is then placed on a slide in a drop of glycerine, cover slip and examined using the 10X microscope objective for the presence of mites (egg, larva, nymph and adults) [4].

Results

A total of 146 dogs with dermatological signs were examined for *Demodex* mite infestation from Teaching veterinary clinical complex, pet clinics and Animal birth control centre in Hyderabad, Telangana during the period of March to August, 2016. Over all prevalence of demodicosis among the total dogs with dermatological disorder was found to be 11.64 % (17/146) by skin scraping tests.

Discussion

In the present study, over all prevalence of demodicosis among the total dogs with dermatological disorder was found to be 11.64 % (17/146), which is similar to [1] who reported the prevalence of demodicosis as 10.2 % in Chennai city. However, the present prevalence was less compared to the findings of [2,3] who reported 35.7 % in Mizoram and 25.45 % in Gujarat respectively. The differences among the results of the present and above earlier study could be attributed to epidemiological factors such as geographical location, seasonal variation, and climate variation. The gender wise prevalence of demodicosis was found to be more in male dogs (64.7 %) than female dogs (35.3%) which are similar to the results of [4-6] who reported 66.6 %, 63.22 %, 35.56 %. Higher prevalence in males which might be due to testosterone levels in plasma as a hypothesis formulated by [7] and because of probably less number of female dogs brought to hospital by the owners as they have more preference to keep male dogs. Highest prevalence (35.3 %) of demodicosis was recorded in dogs of 8-12 months age which is similar to [8,9,5,3] who reported higher prevalence of demodicosis in dogs of below 1 year of age. The incidence is higher in puppies might be due to low resistance in less than one year old as per [3] Higher prevalence (35.3 %) was observed in breed of Labrador retriever dogs which is similar to that reported by [10,11], due to more presentation of breed, ancestral dermatological disorder and keenness of the behavior, more clients rear it as pet and demodicosis is an immune deficient disease as per [12].

Table-1(a) Prevalence of canine demodicosis

Total no. of dogs tested	No. of dogs positive for demodicosis	Prevalence of demodicosis (%)
146	17	11.64

Prevalence of Canine Demodicois in Hyderabad of Telangana State

Table-2 (a) Gender wise prevalence of demodicosis

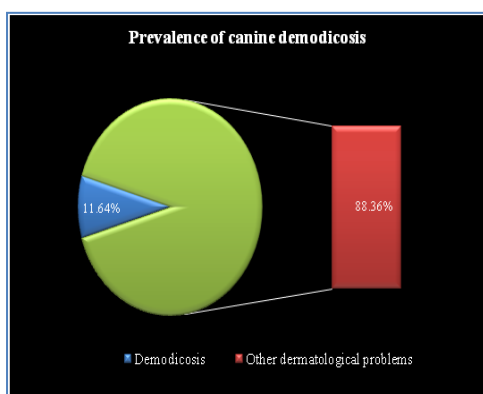
Gender	Positive for Demodicosis	Prevalence (%)
Male	11	64.70
Female	6	35.30
Total	17	100

Table-3(a) Age wise prevalence of demodicosis

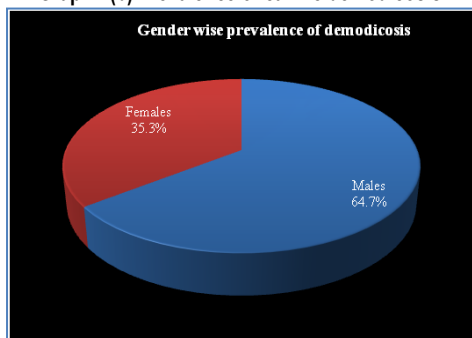
Age group	Number of dogs	Prevalence (%)
4-8 months	02	11.77
8-12 months	06	35.30
12-16 months	02	11.77
16-20 months	04	23.52
>20months	03	17.64
Total	17	100

Table-4(a) Breed wise prevalence of demodicosis

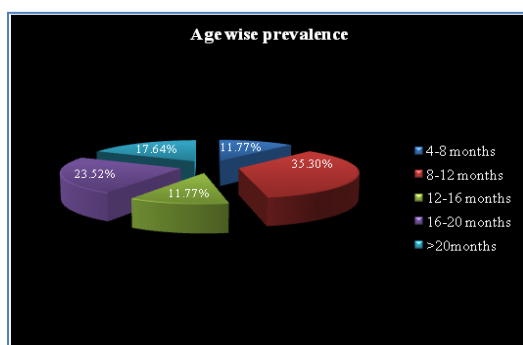
Breed	Number	Prevalence (%)
Labrador	06	35.30
German Shephard	03	17.64
Great Dane	01	5.88
Saint Bernard	01	5.88
Pug	03	17.64
Siberian Huski	01	5.88
Rottweiler	02	11.77
Total	17	100



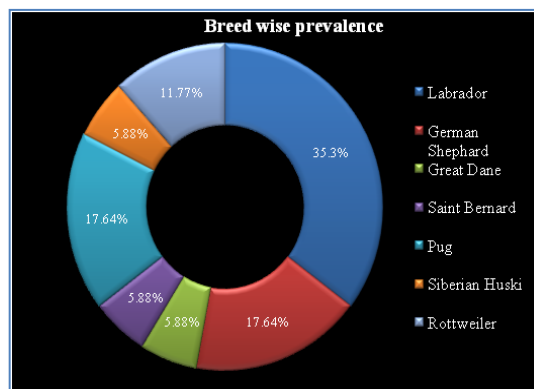
Graph-1(b) Prevalence of canine demodicosis



Graph-2(b) Gender wise prevalence of canine demodicosis



Graph-3(b) Age wise prevalence of canine demodicosis



Graph-4(b) Breed wise prevalence of canine demodicosis



Fig-1 Generalized demodicosis – in Nine months old female German shepherd



Fig2 Erythematous Lesion on forelimb - E Pustular lesion - P

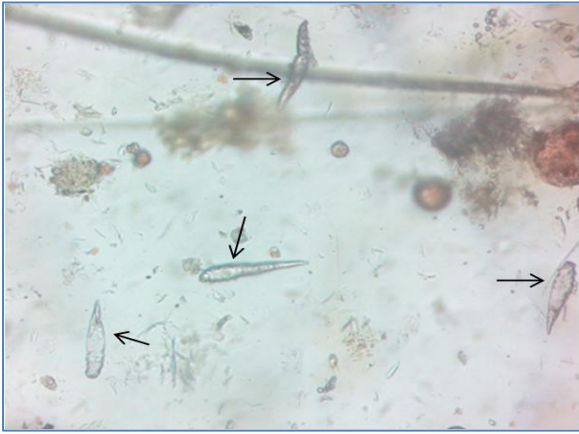


Fig-3 Photomicrograph showing (A) adult *Demodex canis* (10X).



Fig-4 Photomicrograph showing arrow indicating adult *Demodex canis* (40X)

Conclusions

It is concluded that demodicosis in dogs and cats can be easily confused with many skin conditions. Traditionally skin scraping is the only sensitive and gold standard diagnostic method available for the clinicians to diagnose and treat the conditions.

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Author Contributions

- [1] Dr Lubna fathima. It is the Part of MVSc thesis is submitted to PVNR TVU, CVSc, Hyderabad
- [2] Dr GS Sreenivasamurthy, Associate Professor & Head-Major Advisor, CVSc, PVNR TVU, Hyderabad
- [3] Dr M Udayakumar, Professor & Head – Member, CVSc- Korutla (Jagityala Dt), PVNR TVU

Ethical Approval

This article does not contain any studies with human participants or animals performed by any of the authors.

Abbreviations: There are no abbreviations in this article.

Conflict of Interest: None declared

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