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## Prevalence of canine demodicosis in Saurashtra region of Gujarat

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### Abstract

The present study was carried out to determine the prevalence of different dermatological disorders and *Demodex* infection in dogs in and around Junagadh. During the study period total 430 dogs were presented at small animal medicine OPD, Veterinary Clinical Complex, K. U., Junagadh and out of them 73 (16.97%) were having different dermatological disorders. The prevalence of dermatological disorders were found highest in <1 year age group, followed by 1-5 years and >5 years age group. Higher incidence was found in Males than Females. Higher incidence of dermatological disorders was found in Labrador followed by Non-descript dogs, German Shepherd, Spitz, Doberman, Alsatian, Saint Bernard and Pug. Out of 73 dogs with dermatological lesions, 23 (31.50%) dogs were found positive for demodicosis. In present study higher prevalence of canine demodicosis were found in <1 year age group followed by 1-5 years and >5 years age group. Higher prevalence of canine demodicosis was found in Males than Females. Higher prevalence of canine demodicosis was found in Labrador, followed by Non-descript dogs, German Shepherd, Spitz, Doberman and Pug.

**Keywords:** Canine demodicosis, dermatological disorder, prevalence

### Introduction

Skin problems are one of the most common problems affecting dogs. In animals, especially dogs and cats, the skin diseases could be due to parasitism, bacterial and fungi infections, allergies, immunologic diseases, nutritional related dermatosis and hormonal disorders (Nichita and Marcu, 2010) [1].

One of the most common dermatological infections encountered in canine practice is demodicosis which is caused by *Demodex canis* (Gortel, 2006; Sivajothi *et al.*, 2015) [2, 3]. Demodicosis is more common in pure bred dogs and some pure breed dogs are found more prone than others (Gortel, 2006) [2]. Predisposed breeds are Boxers, Chinese Shar peis, American cocker spaniels, Great danes, Pitbull terries, Doberman pinschers, German shepherd, Staffordshire terriers and Old English sheepdog. Factors that predispose dogs to the disease are age, stress, short hairs, poor nutrition, parturition, oestrous, endoparasites and debilitating diseases (Kirk and Muller, 1995) [4].

### Materials and Methods

The present research work was conducted at Department of Veterinary Medicine, College of Veterinary science and Animal Husbandry, Kamdhenu University, Junagadh, from March 2021 to June 2021.

### History and Clinical Examination

In the present study a complete history including age, sex, breed, duration of disease, previous investigation and therapy and any other relevant information were collected from the dog owners and recorded in the case history Performa. All the cases screened for dermatological disorders were clinically examined followed by skin scrapping.

### Analysis of Prevalence

The prevalence of dermatological disorders was calculated among the total number of cases presented during present study, while the prevalence of demodicosis was calculated among the total number of dermatological cases screened. The prevalence was further categorized in relation to age, sex and breed of animals.

## Results and Discussion

### Prevalence of different dermatological disorders of dogs

Total 430 dogs were brought at small animal medicine OPD, Veterinary Clinical Complex, K. U., Junagadh during March 2021 - June 2021 and out of them 73 (16.97%) were having different dermatological disorders. In the present study, complete history was recorded including age, sex and breed of dogs affected with different dermatological disorders. Prevalence of different dermatological disorders in dogs have been summarized in Table 1.

### Age wise Prevalence of different dermatological disorders of dogs

Age wise prevalence of skin diseases of dogs was recorded and summarized in Table 1 Based on tabular data, it can be stated that higher number of cases of canine demodicosis were found in dogs of <1 year age group (34 cases, 46.57%) followed by 1-5 years (27 cases, 36.98%) and >5 years (12 cases, 16.43%) age group in the present study. Thapa and Sarkar (2018)<sup>[5]</sup> studied occurrence of different skin disorders on 156 dogs having chief complaint of dermatological discomfort, out of them higher incidence was noticed in the dogs having age between 1 and 4 years (47.43%), followed by animals having <1 year of age (36.54%) and lowest incidence was found in dogs of >4 years of age (16.03%).

### Sex wise distribution of different dermatological disorders of dogs

Sex wise frequency of canine demodicosis was recorded and summarized in Table 1 Tabular data suggesting that the lower number of canine demodicosis cases were found in females (34 cases, 46.57%) as compare to male dogs (39 cases, 53.42%). Khurana *et al.* (2016)<sup>[6]</sup> done detailed study on dermatological disorders in canines and noted 4736 cases of different types of skin disorders in dogs from July 2010 – June 2015, out of them 2994 (63.22%) dogs were male and 1742 (36.78%) were female.

### Breed wise distribution of different dermatological disorders of dogs

Breed wise frequency of different canine demodicosis was recorded and summarized in Table 1. As per Table 1, it can be stated that highest number of cases of skin disorders were found in Labrador (22 cases, 30.13%) followed by Non-descript dogs (20 cases, 27.39%), German Shepherd (16 cases, 21.91%), Spitz (7 case, 9.58%), Doberman (2 case, 2.73%), Alsatian (2 cases, 2.73%), Saint Bernard (2 cases, 2.73%) and Pug (1 case, 1.36%). Although limited cases have been obtained in the present study and based on that data it is not possible to state about predisposition of breed for dermatological disorders of dogs. Thapa and Sarkar (2018)<sup>[5]</sup> studied occurrence of different skin disorders on 156 dogs having chief complaint of dermatological discomfort, they noted higher occurrence of dermatological disorders in Spitz (27.56%) followed by Labrador (19.87%), Pomeranian (14.14%), Non-descript (13.46%) and Pug (12.82%). The variation of breed predisposition may vary according to the presentation of that breed during study. Here given details are only for information about findings of the present study. For determination of an accurate breed predisposition, it is necessary to obtain data on a larger scale among different breeds of dogs available in the prevailing region.

**Table 1:** Prevalence of different dermatological disorders in dogs (n=73)

Age wise	< 1 year	34 (46.57%)
	1 - 5 years	27 (36.98%)
	>5 years	12 (16.43%)
Sex wise	Male	39 (53.42%)
	Female	34 (46.57%)
Breed wise	Labrador	23 (31.50%)
	ND	20 (27.39%)
	German Shepherd	16 (21.91%)
	Spitz	7 (9.58%)
	Alsatian	2 (2.73%)
	Saint Bernard	2 (2.73%)
	Doberman	2 (2.73%)
	Pug	1 (1.36%)

### Prevalence of canine demodicosis in and around Junagadh

In the present study, complete history was recorded including age, sex and breed of affected dogs. Prevalence of canine demodicosis have been summarized in Table 2.

### Overall prevalence of canine demodicosis

In the present study, total 73 dogs with dermatological lesions were screened and out of them 23 (5.34%) dogs were found positive for *Demodex canis* mites. Kumar *et al.* (2018)<sup>[7]</sup> screened 649 dogs affected with dermatologic disorders and found 158 (24.43%) positive for demodicosis in their study during the period of June 2016 to May 2017. Shreshtha *et al.* (2015)<sup>[8]</sup> screened 110 dogs with skin lesions and found demodicosis in 29.1% of dogs. Rahman *et al.* (2021)<sup>[9]</sup> screened 100 dogs having dermatological lesions and found 27% overall prevalence of canine demodicosis.

### Age wise prevalence of canine demodicosis

Age wise prevalence of canine demodicosis was recorded and summarized in Table 2. Based on tabular data, it can be stated that highest number of cases of canine demodicosis was found in dogs with <1 year age group (12 cases, 52.18%) followed by 1-5 years (8 cases, 34.78%) and >5 years (3 cases, 13.04%) age group in the present study. Similar findings were also reported by other scientists. Sharma *et al.* (2018)<sup>[10]</sup> screened 70 dogs having dermatitis and found 22 cases positive for demodicosis (31.42%), highest prevalence of demodicosis was found in dogs of 0-1 year of age (36.36%) followed by dogs of 1-3 years of age (31.81%) and with the lowest occurrence in dogs of >5 years of age (13.64%). Rahman *et al.* (2021)<sup>[9]</sup> reported them highest prevalence was found in young dogs (35%) followed by adult dogs (24.32%) and lowest prevalence was found in old or aged dogs (17%).

### Sex wise distribution of canine demodicosis

Sex wise frequency of canine demodicosis was recorded and summarized in Table 2. It was found that the females (10 cases, 43.48%) were less affected with canine demodicosis than male dogs (13 cases, 56.52%). Similar findings were also reported by other scientists. Sharma *et al.* (2018)<sup>[10]</sup> found 22 cases positive for demodicosis, infestation of *Demodex* mites significantly higher in males about 81.82% than female about 18.18%. Rahman *et al.* (2021)<sup>[9]</sup> reported high prevalence ratio in male dogs (36.59%) than female dogs (20.34%). Chander *et al.* (2020) reported higher positivity ratio in female dogs (68%) than male dogs (32%).

### Breed wise distribution of canine demodicosis

Breed wise frequency of different canine demodicosis was recorded and summarized in Table 2. As per Table 4.2, it can be stated that highest number of cases of canine demodicosis was found in Labrador (8 cases, 34.78%), followed by Non-descript dogs (6 cases, 26.09%), German Shepherd (4 cases, 17.39%), Spitz (2 case, 8.69%), Doberman (2 case, 8.69%) and Pug (1 case, 4.35%). Although limited cases have been obtained in the present study and based on that data it is not possible to state about predisposition of breed for demodicosis. Kumari *et al.* (2017) <sup>[11]</sup> reported higher prevalence of demodicosis in Pomeranian (35%) followed by Non-descript/Mongrel dogs (22.5%). Solanki *et al.* (2007) <sup>[12]</sup> reported higher prevalence of demodicosis in Pomeranian (26.19%), Mongrel (22.62%) and Doberman (16.67%) amongst various breeds.

**Table 2:** Prevalence of canine demodicosis (n=23)

Age wise	< 1 year	12 (52.18%)
	1 - 5 years	8 (34.78%)
	>5 years	3 (13.04%)
Sex wise	Male	13 (56.52%)
	Female	10 (43.48%)
Breed wise	Labrador	8 (34.78%)
	ND	6 (26.09%)
	German Shepherd	4 (17.39%)
	Spitz	2 (8.69%)
	Doberman	2 (8.69%)
	Pug	1 (4.35%)

### Conclusion

Based on findings of our study, it was concluded that prevalence of canine demodicosis was 31.50% in and around Junagadh. Higher prevalence was found in males and Labrador was most commonly affected breed in studied area. Although, the sample size of the present study was not sufficient to conclude anything but findings of the present study will create the base for further research

### References

- Nichita I, Marcu A. The Fungal Microbiota Isolated from Cats and Dogs. *Scientific Papers: Animal Science and Biotechnologies*. 2010;43(1):411-414.
- Gortel K. Updates in canine demodicosis. *The Veterinary Clinics of North America. Small Animal Practice*. 2006;36:229-241.
- Sivajothi S, Sudhakara Reddy B, Rayulu VC. Demodicosis caused by *Demodex canis* and *Demodex cornei* in dogs. *Journal of parasitic diseases*. 2015;39(4):673-676.
- Kirk RW, Muller G. Canine demodicosis. In: Muller and kirk's small animal dermatology. Philadelphia, PA. WB Saunders, 1995, p 113.
- Thapa G, Sarkar S. Occurrence of Canine Skin Disorder and its Haematobiochemical Alterations. *Int. J Curr. Microbiol. App. Sci*. 2018;7(12):184-195.
- Khurana R, Kumar T, Agnihotri D, Sindhu N. Dermatological disorders in canines - a detailed epidemiological study. *Haryana Vet*. 2016;55(1):97-99.
- Kumar A, Das A, Sinhs M, Arya Das S, Kumar A, Kumar B. Study on the Prevalence of Demodectic Mange in Dogs in and Around Patna. *Int. J Curr. Microbiol. App. Sci*. 2018;7:4216-4221.

- Shrestha D, Thapa B, Rawal G, Dhakal S, Sharma B. Prevalence of demodectic mange in canines of Kathmandu Valley having skin disorder and its associated risk factors. *Int. J Appl. Sci. Biotechnol*. 2015;3(3):459-463.
- Rahman M, Bostami MB, Datta A, Sabuj AAM, Rana EA, Mannan A, *et al.* Estimation of the prevalence and determination of risk factors associated with demodicosis in dogs. *J Adv. Vet. Anim. Res*. 2021;8(1):116-122.
- Sharma P, Wadhwa D, Katoch A, Sharma A. Epidemiological, clinico-haematological and therapeutic studies on canine demodicosis. *J Dairy Vet. Anim. Res*. 2018;7(3):109-113.
- Kumari DB, Syaama Sundar N, Rao VV, Raghunath M. Clinical signs and epidemiological and in canine demodicosis. *Int J Sci Env Tech*. 2017;6(1):854-860.
- Solanki JB, Hasnani JJ, Patel DM, Patel PV, Raval SK. Canine demodicosis in Anand. *J Vet. Parasitol*. 2007;21:79-80.