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Prevalence of canine demodicosis in and around Parbhani

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Abstract

The present study was conducted to determine the prevalence of Demodex infection in dogs. Out of 108 dogs examined, 30 (27.78%) dogs were found positive for Demodicosis with 17.02% (8/47) localized and 36.06% (22/61) for generalized demodicosis. The prevalence in female dogs were higher 31.42% compared to male dogs 26.02%. The age wise prevalence of canine demodicosis upto 0-4 months, 5-8 months, 9-12 months and above 1 years of age were 29.16%, 37.93%, 20.76% and 24.13%, respectively. Breed-wise higher susceptibility to Demodicosis was observed in non-descript breed (37.5%) followed by Rottweiler (33.33%), German shepherd (38.46%), Labrador retriever (25%), Doberman (23.07%) and Pug (18.18%), Caravan (16.66%) and (15.38%) in cross breed. While, prevalence of demodicosis in short and long hair dog was 27.41% and 28.26%, respectively.

Keywords: canine demodicosis, parbhani, *Demodex*, prevalence

Introduction

Skin is the major organ of the body and exposed to attack by numerous kinds of parasites and each species has a particular effect on the skin; that can be mild or severe. The response of skin to these ectoparasites living in or on skin may results in inflammation, edema and an attempt to localize the foreign body, toxin or excretory products of the parasite. Canine demodicosis caused by ectoparasitic mite of genus *Demodex* is a major and common and frequently occurring ectoparasitic disease of dogs. Canine demodicosis is a recurrent parasitic infection, exists in localized and generalized forms. The localized form appears as small patches of alopecia and mild erythema in young dogs often including face and fore limbs. This form most often affects the dogs younger than 1 year of age. Chronic generalized demodicosis is characterized covering an entire region of the body and/or pododemodicosis involving two or more paws. The common dermatological problems came in notice with pruritis, itching, alopecia, crusting, scaling, otitis, pustules, nodules, tumors and ulcerative disorders. The present work conducted to study the prevalence according to age, gender, breed and clinical form of canine Demodicosis.

Material and Methods

The dogs presented with various dermatological problems like alopecia, erythematous lesion especially on the face, around eyeball, neck, shoulder, forelimbs, abdomen, hindlimbs, change in pigmentation, greasy lesions and pyoderma with or without pruritus, scales, crusts, papule, pustule were selected for the study. The detailed clinical examination of the dog included history with regards to age, breed, gender, management, clinical findings and duration of illness. Total 108 dogs presented at Veterinary Clinical Complex, College of Veterinary and Animal Science, Parbhani, Maharashtra were screened for canine Demodicosis with deep skin scraping examination.

Results and Discussion

The prevalence of canine Demodicosis as per age, breed, gender, breed and clinical forms were presented as below.

Overall prevalence of canine demodicosis

Out of 108 dogs examined for different skin diseases, 30 cases were found positive for canine demodicosis indicating overall prevalence of 27.78 percent (Table 1).

Table 1: Overall prevalence of canine demodicosis

Sr. No.	No. of dogs examined	Demodicosis positive cases	Prevalence (%)
1	108	30	27.78

The recorded prevalence rate (27.78%) was near about equivalent to the findings of Cai *et al.* (2014) [1] and Shresth *et al.* (2015) [10], Kumar *et al.*, (2018) [5] who reported 25.0% in China, 29.1% in Nepal and 24.43% in Patna, respectively. The differences in the results of the current and previous studies was due to epidemiological factors such as weather, mismanagement, geographical location, frequent bathing of dogs, nutritional deficiency and immune suppression.

Prevalence of clinical form of canine Demodicosis

The prevalence of generalized canine Demodicosis was found to be higher 36.06 percent compared to localized form of Demodicosis 17.02 percent (Table 2) with non-significant changes.

Table 2: Prevalence of clinical form of canine Demodicosis

Sr. No.	Clinical form of Demodicosis	Total dogs tested		Prevalence (%)
		Examined	Positive	
1	Localized	47	8	17.02
2	Generalized	61	22	36.06
		108	30	

These findings were in accordance with Janus *et al.* (2014) [4], Swathi *et al.* (2016) and Maravi *et al.* (2019) [7].

Age-wise prevalence of canine Demodicosis

In the present study, the highest prevalence of canine Demodicosis was recorded in age group of 5-8 month (37.93%). Statistically non-significant prevalence observed among different age group of dogs affected with canine Demodicosis.

Table 3: Age-wise prevalence of canine Demodicosis

Sr. No.	Age group	Samples examined	Positive sample	Prevalence (%)
1	0-4 month	24	7	29.16
2	5-8 month	29	11	37.93
3	9-12 month	26	5	19.23
4	Above 1 years	29	7	24.13
	Total	108	30	

The similar finding were also reported by However, Pereira *et al.* (2015) [8] and Kumari *et al.*, (2017) [8], who recorded higher in the dogs of 0-1 years of age. Higher susceptibility of younger age group dogs observe due to lowered body resistance.

Breed-wise prevalence of canine Demodicosis

Breed-wise higher susceptibility to Demodicosis was observed in non-descript breed (36%) followed by Rottweiler (33.33%), German shepherd (38.46%) Labrador retriever (25%), Doberman (23.07%) and Pug (18.18%) Cross breed at (15.38%) and Caravan (16.66%) respectively (Table 4).

Table 4: Breed-wise prevalence of canine Demodicosis

Sr. No.	Breed	Sample examined	Positive cases	Prevalence (%)
1	Non-descript	24	10	41.66
2	Rottweiler	9	3	33.33
3	German shepherd	16	5	38.46
4	Labrador	16	4	25
5	Doberman	13	3	23.07
6	Pug	11	2	18.18
7	Cross-breed	13	2	15.38
8	Caravan	6	1	16.66
	Total	108	30	

Non-descript breed was more prone to Demodicosis due to overpopulation of this breed in study area and preference of non-descript breed in local area.

Gender wise distribution of canine Demodicosis

There were statistically non-significant differences (Table 5) found between gender for the occurrence of canine Demodicosis.

Table 5: Gender wise prevalence of canine Demodicosis

Sr. No.	Gender	No of sample Processed	No of sample positive	Prevalence (%)
1	Male	73	19	26.02
2	Female	35	11	31.42
	Total	108	30	

These findings were in correspondence with, Thushara *et al.* (2012) Fahmy *et al.*, (2013) [3], and Shershta *et al.* (2015), who reported non significant difference among gender for the occurrence of canine Demodicosis. However, Chander *et al.*, (2020) [2] reported more prevalence in female and Thapa *et al.*, (2018) [11] and Shchelkanov *et al.*, (2020) [9] observed high

prevalence in male dogs.

Conclusion

The overall prevalence of canine Demodicosis in Parbhani was 27.78 percent with 36.06 percent for generalized Demodicosis. Maximum numbers of cases recorded in 5-8

months age group and higher susceptibility in non-descript dogs.

References

1. Cai D, Zhang Q, Zhang L, Zhang H, Fu Z, He G, Liu G *et al.* Prevalence of fur mites in canine dermatologic disease in Henan, Hebei, Heilongjiang Provinces and Xinjiang Uygur Autonomous Region, China. *International Journal of Veterinary Science* 2014;3(1):29-32.
2. Chander R, Choudhary S, Singh AP, Chahar A, Koli SK *et al.* Prevalence of canine demodicosis in Bikaner, Rajasthan. *The Pharma Innovation Journal* 2020;9(7):180-185.
3. Fahmy MM, Mohammed MA. Prevalence and pathology of Canine Demodicosis among different dog breeds in Egypt. *International Symposia on Entomology* 2013;2(2):82.
4. Janus A, Tresamol PV, Mercey KA, Habeeb BP, Shameem H *et al.* A study on clinical and haematobiochemical parameters in canine demodicosis. *Indian Journal of Canine Practice* 2014;6(1):92-94.
5. Kumar A, Das AK, Sinha M, Das SK, Kumar A, Kumar B *et al.* Study on the Prevalence of Demodectic Mange in Dogs in and Around Patna. *International Journal of Current Microbiology and Applied Sciences* 2018;(7):4216-4221.
6. Kumari B, Sundar NS, Rao VV, Raghunath M. Clinical signs and epidemiological and in canine demodicosis. *International Journal of Environmental Science and Technology* 2017;6(1):854-860.
7. Maravi P, Tiwari A, Singh B, Mourya A, Gupta DK, Baghel RPS, *et al.* Prevalence of chronic generalized demodicosis in dogs in and around Jabalpur. *International Journal of Chemical Studies* 2019;7(4):3237-3239.
8. Pereira DT, Castro LJM, Centenaro VB, Amaral AS, Krause A, Schmidt C, *et al.* Skin impression with acetate tape in *Demodex canis* and *Scarcoptes scabiei* var. *vulpes* diagnosis. *Brazilian Journal of Veterinary and Animal Sciences* 2015;67(1):49-54.
9. Shchelkanov MY, Tabakaeva Moskvina TV, Kim EM, Derunov DA, Galkina IV *et al.* The prevalence and risk factors of canine demodicosis: A retrospective long-term study of 409 cases. *Tropical biomedicine* 2020;37(3):778-782.
10. Shrestha D, Thapa B, Rawal G, Santosh D, Sharma B *et al.* Prevalence of demodectic mange in canines of Kathmandu valley having skin disorder and its associated risk factors. *International Journal of Applied Sciences and Biotechnology* 2015;3(3):459-463.
11. Thapa G, Sarkar S. Occurrence of canine skin disorder and its haematobiochemical alterations. *Int. J Curr. Microbiol. App. Sci* 2018;7(12):184-195.