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## Studies on canine otitis externa and therapeutic management of bacterial otitis externa with special reference to oregano oil

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### Abstract

In the present study diagnostic and therapeutic aspects of canine otitis externa presents the incidence of otitis externa in relation with age, breed, gender, season along with hematobiochemical alterations, isolation of causative agent and different therapeutic regimens in dogs suffering with otitis externa and screening of 39/264 dogs were diagnosed with otitis externa forming an overall incidence of 14.77%. Highest incidence was recorded in the age group of 1 to 5 years (48.71%) followed by 5 to 10 years (41.02%) and 3 months to 1 year (10.25%). Breed wise incidence was highest in Labrador retriever (21.42) and least in Pug (6.66%) breed. Similarly, the otitis externa was relatively more in the males (58.97%) compared to females (41.02%), The same thing was highest in summer (43.58%), followed by rainy (30.76%) and winter (25.64%) season.

**Keywords:** otitis externa, age, breed, sex, season and incidence

### Introduction

Otitis externa is defined as the inflammation of external ear canal and pinna. It is a common and often protracted or recurrent clinical conditions in dog <sup>[1]</sup>. Otitis externa is the one of the most common and multifactorial disorders accounting up to 10 to 20% of consultations in canine practice <sup>[2]</sup>. The maximum incidence of otitis externa in dogs of age between 1 to 3 years followed by dogs between 3 to 6 years of age <sup>[3]</sup>. Certain breeds of dogs such as Cocker spaniels, Springer spaniels and Labrador retrievers have more ceruminous or wax glands in their horizontal ear canals that increase their chances of developing otitis externa. Breeds that have an increased number of hairs in the horizontal canal such as poodles, can also be predisposed to otitis externa. Humid environments and excessive moisture in the ears from swimming or bathing promote bacterial growth. Excessive trauma to the ear canal resulting from exuberant ear cleaning or trauma from instruments used in the ear canal may allow bacterial colonization <sup>[4]</sup>.

### Material and Methods

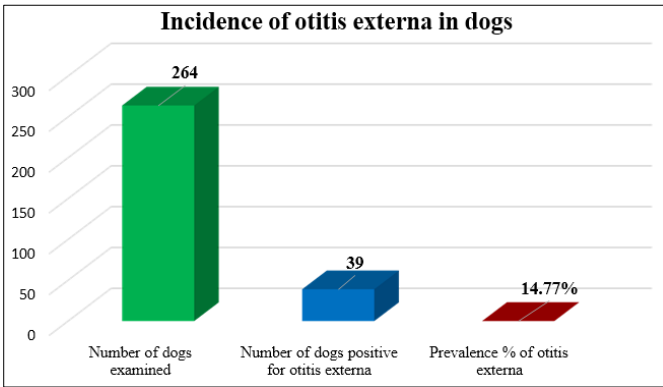
The present study was carried out to study diagnostic and therapeutic aspects of canine otitis externa presents the incidence of otitis externa in relation with age, breed, gender, season along with hematobiochemical alterations, isolation of causative agent and different therapeutic regimens in dogs suffering with otitis externa. A total of 3896 dogs was presented to the Veterinary Clinical Complex, Bhoiguda and Campus Veterinary hospital, College of Veterinary Science, Rajendranagar, Hyderabad, Telangana and referral cases from the practicing veterinarians in and around Hyderabad, during the period of December 2020 to July 2021.

### Results

In the present study, out of total 264 cases were suspected for otitis externa and 39 dogs were diagnosed for the same. Thus, the overall incidence of otitis externa turned out to be 14.77% (Table 1 and Figure 1).

**Table 1:** Showing incidence of otitis externa in dogs

Number of dogs examined	264
Number of dogs positive for otitis externa	39
Incidence % of otitis externa	14.77%

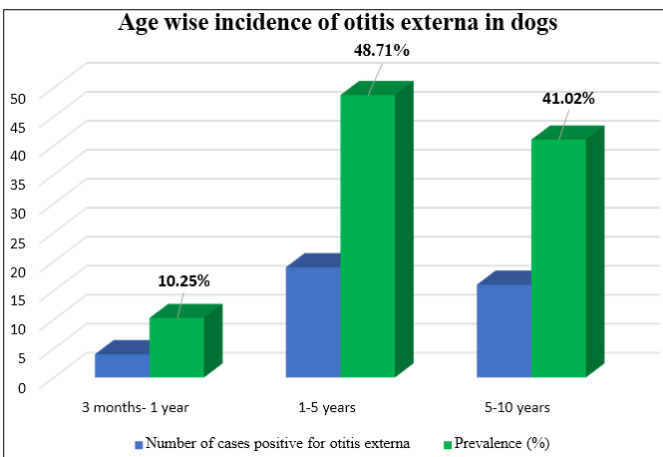


**Fig 1:** Showing incidence of otitis externa in dogs

The age wise incidence of otitis externa was recorded at 3 months to 1 year, 1 to 5 years, 5 to 10 years as 10.25%, 48.71% and 41.02% respectively. Highest (48.71%) incidence was recorded in 1 to 5 years of age group of dogs, followed by (41.02%) incidence in 5 to 10 years group dogs, and in the age group between 3 months to 1 year (3m to 1Y) the incidence observed was (10.25%) (Table 2 and Figure 2).

**Table 2:** Showing age wise incidence of otitis externa in dogs

Age group	Number of cases positive for otitis externa	Incidence (%)
3 months- 1 years	04	10.25
1 to 5 years	19	48.71
5 to 10 years	16	41.02
Total	39	100



**Fig 2:** Showing age wise incidence of otitis externa in dogs

Otitis externa was recorded in different breeds like Labrador retriever, German shepherd, Cocker spaniel, Mongrel, Doberman, Spitz, Rottweiler, Pug breeds. The highest incidence of otitis externa was recorded in Labrador retriever (21.42%), followed by 16.92%, 12.00%, 12.00%, 11.11%, 9.52%, 8.00% and 6.66% in German shepherd, Cocker spaniel, Mongrel, Doberman, Spitz, Rottweiler and Pug breeds respectively Table 3 and Figure 3.

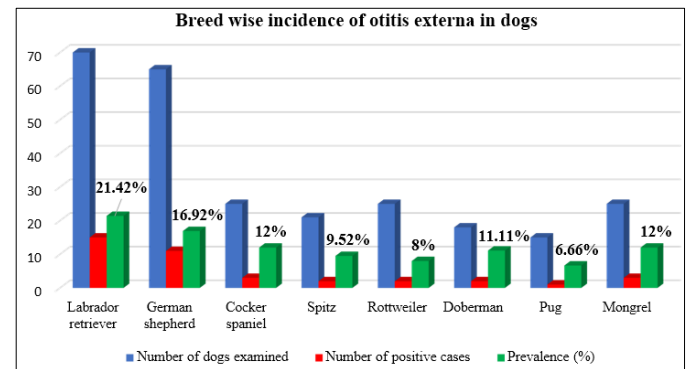
Otitis externa was recorded highest (58.97%) among 23 male dogs followed by 16 (41.02%) female dogs and the same is given in Table 4 and Figure 4.

The season wise incidence were recorded as summer (March-June), rainy (July- October), and winter (November-February) and the highest incidence was noticed in summer

(43.58%), followed by rainy (30.76%) and winter (25.64%) (Table 5 and Figure 5).

**Table 3:** Showing breed wise incidence of otitis externa in dogs

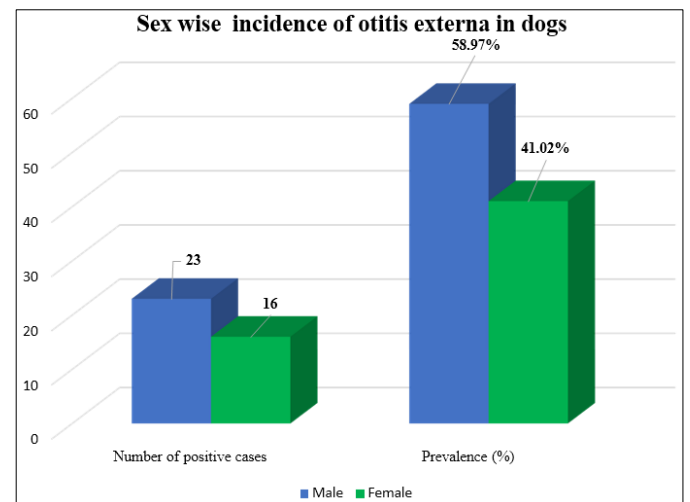
Name of the breed	Number of dogs examined	Number of positive cases	Incidence (%)
Labrador retriever	70	15	21.42
German shepherd	65	11	16.92
Cocker spaniel	25	03	12.00
Spitz	21	02	9.52
Rottweiler	25	02	8.00
Doberman	18	02	11.11
Pug	15	01	6.66
Mongrel	25	03	12.00
Total	264	39	100



**Fig 3:** Showing breed wise incidence of otitis externa in dogs

**Table 4:** Showing sex wise incidence of otitis externa in dogs

Sex	Number of positive cases	Incidence (%)
Male	23	58.97
Female	16	41.02
Total	39	100



**Fig 4:** Showing sex wise incidence of otitis externa in dogs

**Table 5:** Showing season wise incidence of otitis externa in dogs

Season	Number of positive cases	Incidence (%)
Summer	17	43.58
Rainy	12	30.76
Winter	10	25.64
Total	39	100

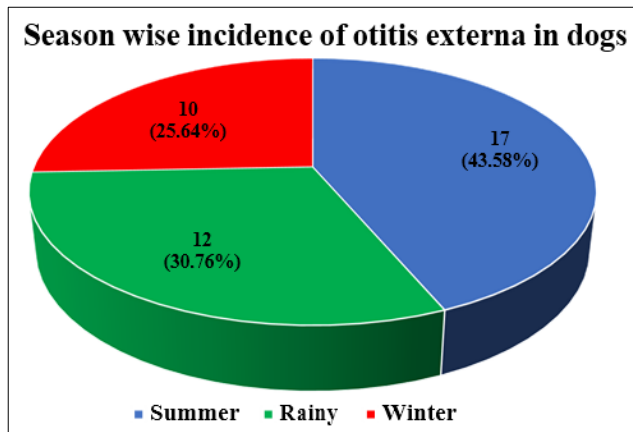


Fig 5: Showing season wise incidence of otitis externa in dogs

## Discussion

In the present investigation the age wise incidence was recorded highest in the age group between 1 to 5 years (48.71%), followed by 5-10 years (41.02%) and in the age group between 3 months to 1 year (10.25%). These findings are in agreement with who reported a highest incidence of otitis externa is 1-5 years age group [3, 5]. On the other hand highest occurrence of otitis externa is reported in old age dogs [6] and highest incidence is reported in between 5-10 years age group [7]. However there is no age predilection in dogs suffering from otitis externa [8].

With respect to breed, highest incidence of otitis externa was observed in Labrador retriever (21.42%), followed by German shepherd (16.92%), Cocker spaniel (12.00%), Mongrel (12.00%), Doberman (11.11%), Spitz (9.52%), Rottweiler (8.00%), and Pug (6.66%) breeds. These findings are in concurrence with who reported a highest incidence of otitis externa in Labrador retriever [9, 5] and on the other hand this was in contrast with who reported highest occurrence of otitis externa in Cocker spaniel [10, 11]. Whereas, highest occurrence of otitis externa is reported in German shepherd breed dogs [12]. The higher incidence of otitis externa in Labrador retriever was probably due to susceptibility of breed and long floppy droopy ears [13].

Sex wise incidence of otitis externa accounted relatively high in male dogs (58.97%) compared to female dogs (41.02%) the findings of which are in accordance with who stated that majority of the dogs that were affected with otitis externa were males compared to females [5, 7]. But these findings are in contrary with who reported higher incidence in females compared to males [14, 15]. On the other hand there is no sex predisposition for canine otitis externa [8].

In the present study the highest incidence was seen in summer season (43.58%), followed by rainy season (30.76%) and (25.64%) winter season. These findings are in accordance with who reported highest incidence of otitis externa in summer season [16, 4]. On contrary, least incidence of otitis externa is reported in autumn [17]. In the present study highest incidence in summer is due to high humidity that might result in development of ideal environment for growth of bacteria and yeast [18].

## References

- Bradley CW, Lee FF, Rankin SC, Kalan LR, Horwinski J, Morris DO, *et al.* The otic microbiota and mycobiota in a referral population of dogs in eastern USA with otitis externa. *Veterinary dermatology* 2020;31(3):225-249.
- Senthil KK, Selvaraj P, Vairamuthu S, Mala S, Kadiresan

D. Antibiogram patterns of microbes isolated from otitis externa of dogs. *Tamil Nadu Journal Veterinary & Animal Sciences* 2010;6(3):145-147.

- Agnihotri D, Sharma A, Khurana R. XXXII Annual Convention of ISVM and International Symposium on the 21st Century Road map for Veterinary Practice. Education and research in India and Developing Countries 2014;6:21-91.
- Balappanavar BR, Vasanth MS. Clinico-diagnostic and therapeutic management of canine malasseziosis. *Intas Polivet* 2013;14(2):353-358.
- Parmar JJ, Rao N, Shah AI, Sadhu DB, Bhandari BB, Patel DM. Clinical Studies on Ear Infections, Microbiological Evaluation and Therapeutic Management in Canines. *International journal of Current Microbiology and Applied Sciences* 2020;9(1):1496-1501.
- Manju R, Roshan K, Suhsovan R. Prevalence of canine otitis externa, etiology and clinical practice in and around Durg District of Chhattisgarh State, India. *International Journal of Current Microbiology and Applied Sciences* 2018;7(3):269-274.
- Hegde G, Subapriya S, Vairamuthu S. Update on microbial profile and drug sensitivity of canine otitis. *The Pharma Innovation* 2021;10(3):549-551.
- Zur G, Lifshitz B, Bdolah-Abram T. The association between the signalment, common causes of canine otitis externa and pathogens. *Journal of Small Animal Practice* 2011;52(5):254-258.
- Sharma AK, Sood NK, Sharma S, Filia G. Epidemiology and diagnosis of mycotic infections in canine otitis externa. *Intas Polivet* 2016;17(2):302-303.
- Kaimio M, Saijonmaa-Koulumies L, Laitinen-Vapaavuori O. Survey of otitis externa in American Cocker Spaniels in Finland. *Acta Veterinaria Scandinavica* 2017;59(1):1-9.
- Perry LR, MacLennan B, Korven R, Rawlings TA. Epidemiological study of dogs with otitis externa in Cape Breton, Nova Scotia. *The Canadian Veterinary Journal* 2017;58(2):168.
- Chaudhary M, Mirakhor KK. Studies on occurrence of canine otitis. *Indian Veterinary Journal* 2002;79:748-749.
- Kumar A, Singh K, Sharma A. Prevalence of *Malassezia pachydermatis* and other organisms in healthy and infected dog's ears. *Israel Journal of Veterinary Medicine* 2002;57(4):145-148.
- Saridomichelakis MN, Farmaki R, Leontides LS, Koutinas AF. Aetiology of canine otitis externa: a retrospective study of 100 cases. *Veterinary dermatology* 2007;18(5):341-347.
- Lehner G, Sauter Louis C, Mueller RS. Reproducibility of ear cytology in dogs with otitis externa. *Veterinary Record* 2010;167(1):23-26.
- Kumar KS, Selvaraj P, Vairamuthu S, Nagarajan B, Nambi AP, Prathaban S. Survey of fungal isolates from canine mycotic dermatitis in Chennai. *Tamilnadu Journal of Veterinary Animal Science* 2011;7:48-50.
- Conkova E, Sesztakova E, Palenik L, Smrco P, Bilek J. Prevalence of *Malassezia pachydermatis* in dogs with suspected *Malassezia* dermatitis or otitis in Slovakia. *Acta Veterinaria Brno* 2011;80(3):249-254.
- Hayes Jr HM, Pickle LW, Wilson GP. Effects of ear type and weather on the hospital prevalence of canine otitis externa. *Research in veterinary science* 1987;42(3):294-298.