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Short Communication

Otitis externa in Dogs: A Cross-Sectional Analysis of Prevalence and Contributing Risk Factors in Palam Valley of Himachal Pradesh

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Abstract

The present study was conducted at Palampur from June 2022 to July 2023 to determine the prevalence and epidemiological risk factors of otitis externa in dogs. Out of 2,476 dogs presented, 81 were diagnosed with otitis, showing an overall hospital prevalence of 3.27%. The highest prevalence was observed in Labrador Retrievers (23.45%), followed by German Shepherds (14.81%) and Pomeranians (12.43%). Dogs aged 1-5 years showed the highest prevalence (41.97%). Male dogs were more frequently affected (80.25%) compared to females (19.75%). The incidence peaked during the rainy season (59.25%). Clinical signs included pruritus, head shaking, ear pain, swelling, and purulent discharge. Findings highlight breed, age, sex, and season as significant risk factors for otitis externain dogs in Palam valley. Managing otitisin dogs needs regular medicalcheck-ups and client education.

Keywords: Canines, Ear disease, Incidence, Threats

Dogs have become indispensable companions, providing emotional support and improving human well-being. The ear canal's unique anatomy, coupled with environmental and host factors, predisposes dogs to otitis externa, a common inflammatory condition characterized by pain, pruritus, and secondary infections (Cole 2009). This study aims to estimate the prevalence of otitis externa and analyse associated risk factors including breed, age, sex, and season among dogs in Palam valley of Himachal Pradesh. The study was carried out at the Department of Veterinary Medicine, Dr. G.C. Negi College of Veterinary and Animal Sciences, CSKHPKV, Palampur, from June 2022 to July 2023. A total of 2,476 dogs presented to the veterinary clinics during this period were screened. Dogs with clinical signs suggestive of otitis were screened based on clinical signs *viz*., shaking of head, pawing at the ear, foul smell from the ear, lesions on the external ear and subjected to detailed physical and otoscopic examination. Of 2,476 dogs, 81 were diagnosed with otitis externa, showing a hospital prevalence of 3.27%, comparable to O'Neill *et al.* (2021) who reported 7.3%, but lower than Parmar *et al.* (2020) who reported 57.76%.

Labrador Retrievers were most affected, consistent with Parmar et al. (2020). Breeds with pendulous or densely haired ears are predisposed due to poor ventilation and moisture retention (Paterson 2016).

Dogs aged 1-5 years were most affected, likely due to higher activity and exposure to external risk factors.

Higher prevalence in males aligns with previous reports (Parmar *et al.* 2020; Barua *et al.* 2021), possibly reflecting higher male dog population presented in clinics.

Most cases occurred during the rainy season due to increased humidity favouring microbial growth (Sharma *et al.* 2017).

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Table 1. Breed-wise prevalence of otitis externa in dogs (n=81)

S. No.	Breed	Number of cases	Percentage (%)
1	Labrador Retriever	19	23.45
2	German Shepherd	12	14.81
3	Pomeranian	10	12.43
4	Mongrel	10	12.43
5	Pug	8	9.80
6	Beagle	5	6.17
7	Gaddi	4	4.93
8	Cross breed	4	4.93
9	Golden Retriever	3	3.70
10	Rottweiler	3	3.70
11	Husky	3	3.70

Table 2. Age-wise prevalence of otitis externa in dogs

S. No.	Age Group (years)	Number of Cases	Percentage (%)
1	< 1 year	18	22.22
2	1–5 years	34	41.97
3	6–10 years	24	29.63
4	> 10 years	5	6.17

Prevalence of Various Aetiological Agents Involved in Otitis Externa

In a study of 50 cases of *Otitis externa*, the primary cause was identified in 45.67% (37/81) as hypersensitivity, linked to clinical history and symptoms. Demodicosis was found in 6.17% (5/81), while immune-mediated conditions (*juvenile cellulitis*) accounted for 4.93% (4/81). Hypothyroidism and canine distemper were each present in 2.46% (2/81). Breed predisposition is a significant factor in Otitis externa, with 69.13% of cases occurring in breeds with pendulous ears, such as

Table 3. Sex-wise prevalence of otitis externa in dogs

S. No.	Sex	Number of Cases	Percentage (%)
1	Male	65	80.25
2	Female	16	19.75

Table 4. Season-wise prevalence of otitis externa in dogs

S. No.	Season	Number of Cases	Percentage (%)
1	Rainy (July-Aug)	48	59.25
2	Summer (Apr-Jun)	15	18.51
3	Winter (Dec-Mar)	10	12.34
4	Autumn (Sep-Nov)	8	9.87

Labrador Retrievers and Pugs. In contrast, 30.86% were found in erect-eared breeds, predominantly German Shepherds and Pomeranians. Moisture accumulation in the ear canal was noted in 33.33% of cases, and 20.98% were linked to water entry. Ear polyps appeared in 7.40% of cases, and treatment errors occurred in 11.11%. In the 81 cases of otitis externa, all showed secondary bacterial and fungal overgrowth confirmed by cytology. Yeast species were found in 16.04% (13/81) of cases. Bacterial infections were present in 65.43%, with cocci-shaped bacteria in 37.03% (30/81) and rod-shaped bacteria in 28.39% (23/81). Mixed infections were identified in 18.51% (15/81) of cases. Details regarding the prevalence of various aetiological factors involved in otitis externa are given in Table 5 and Figure 2 (I-VI).

Ear pruritus, pain, swelling, head shaking, pawing, foul odour, hyperaemia, hyperpigmentation, ulceration (16.8%), and stenosis (12.34%) were the main clinical signs observed in Otitis externa Figure 1 (I-VI). Otoscopic examination revealed erythematous canals in 88.8% cases.

Table 5. Aetiological agents involved in canine *otitis externa*

Primary Causes			Secondary Causes		Predisposing Factors		
	n	%		n		n	%
Hypersensitivity	37	45.67%	Rod-associated	23	Excessive moisture	17	20.98%
Parasitism	5	6.17%	*Cocci*-associated	30	Treatment error	9	11.11%
Hypothyroidism	2	2.46%	Fungal	13	Aural polyps	6	7.40%
Viral disease	2	2.46%	Mixed infection	15	Pendulous ear breed	53	69.13%
Immune-mediated	4	4.93%			Erect ear breed	25	30.86%



Figure 1. Clinical signs seen in canine otitis externa.

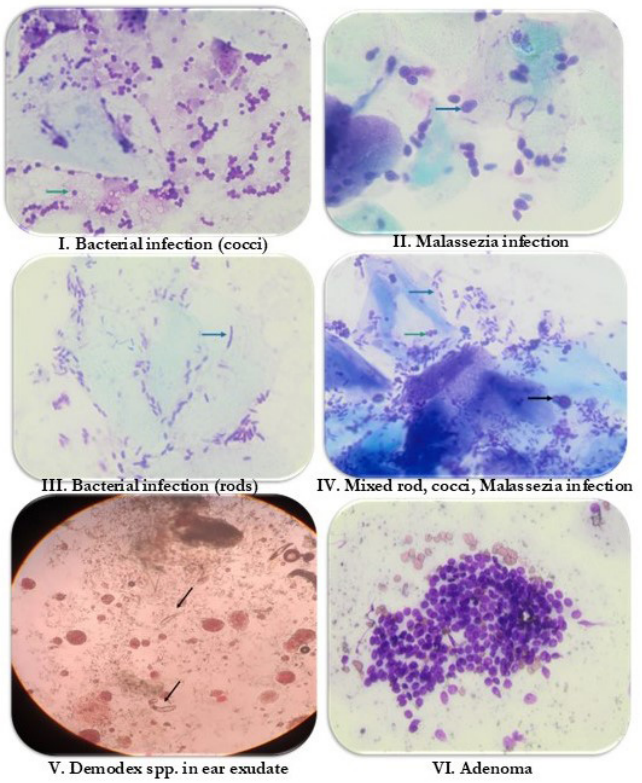


Figure 2. Aetiological agents involved in canine otitis externa.

CONCLUSION

The study found an overall prevalence of otitis externa of 3.27% among dogs in Palam valley of Himachal Pradesh. Labrador Retrievers, younger dogs aged 1-5 years, males, and the rainy season were significant risk factors. Improved ear hygiene and preventive care are recommended, especially during high-risk seasons and in predisposed breeds. Managing Otitis in dogs needs regular medical check-ups and client education.

Conflict of Interest: Authors declared that they do not have any conflict of interest.

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