International Journal of Veterinary Sciences and Animal Husbandry

ISSN: 2456-2912
NAAS Rating (2025): 4.61
VET 2026; 11(1): 300-302

www.veterinarypaper.com
Received: 02-10-2025
Accepted: 04-11-2025

Vinay YN
Scholar, Department of Veterinary Medicine, Veterinary College, Hebbal, Bengaluru, Karnataka, India

Chetan Kumar GK
Assistant Professor, Department of Veterinary Medicine, Veterinary College, Hebbal, Bengaluru, Karnataka, India

Shrikrishna Isloor
Professor & Head, Department of Veterinary Microbiology, Veterinary College, Hebbal, Bengaluru, Karnataka, India

Corresponding Author:
Vinay YN
Scholar, Department of Veterinary Medicine, Veterinary College, Hebbal, Bengaluru, Karnataka, India

Epidemiological study on canine babesiosis

Vinay YN, Chetan Kumar GK and Shrikrishna Isloor

DOI: https://www.doi.org/10.22271/veterinary.2026.v11.i1e.2967

Abstract
Canine babesiosis is a significant tick-borne hemoprotozoan disease of dogs, caused mainly by *Babesia canis* and *B. gibsoni*. The present study was undertaken to evaluate the epidemiological occurrence of canine babesiosis in dogs presented to the Department of Veterinary Medicine, Veterinary College, Hebbal, Bangalore. Out of 40 suspected cases, 24 were confirmed positive by PCR and analyzed for epidemiological factors. Breed-wise, Labrador Retrievers recorded the highest occurrence (16.6%), followed by German Shepherds, Shih Tzus, Golden Retrievers, and Siberian Huskies. Age-wise, young adults showed the higher occurrence (54.16%), while gender-wise, males were more affected (58.33%) than females. Grey-coated dogs (29.16%) exhibited higher occurrence compared to other coat types. Routine vaccination (70.83%) and regular deworming (75.0%) did not offer protection against babesiosis, indicating the need for targeted preventive measures. The findings highlight that breed, age, gender and coat type play a significant role in the epidemiology of the disease, while control strategies should focus on tick management and development of specific vaccines.

Keywords: Canine babesiosis, Epidemiology, *Babesia gibsoni*, Breed susceptibility, Tick-borne disease, Vector control

Introduction
Canine babesiosis is an important tick-borne hemoprotozoan disease caused by intraerythrocytic parasites of the genus *Babesia*, primarily *B. canis* and *B. gibsoni* (Mahalingaiah *et al*., 2017; Shil *et al*., 2022) [2, 7]. It is characterized by fever, anemia, hemoglobinuria, and variable systemic complications (Shrivastava *et al*., 2014; Jadhav *et al*., 2015) [8, 1]. Epidemiological studies are essential to understand the distribution of the disease and to identify risk factors such as breed, age, gender, and management practices (Ravi *et al*., 2016; Raju, 2023) [6, 5]. The present study was conducted to evaluate the epidemiological pattern of canine babesiosis in dogs presented to the Department of Veterinary Medicine, Veterinary College, Hebbal, Bangalore.

Materials and Methods
A total of 40 suspected cases of canine babesiosis were included in the study. Blood samples were collected aseptically and examined by PCR for confirmation. Out of these, 24 cases were confirmed positive for babesiosis and further analyzed for epidemiological factors. Epidemiological data including breed, age, gender, coat type, vaccination and deworming history were recorded from the owners. The occurrence of babesiosis was expressed as percentages across the studied variables. Findings were compared with previously published studies for interpretation.

Results and Discussion
Among the 24 PCR-positive cases, higher occurrence was recorded in Labrador Retrievers (16.6%) followed by German Shepherds, Shih Tzus, Golden Retrievers and Siberian Huskies (12.5% each), Rottweilers and Pit Bulls (8.33% each), Spitz, Pugs, Dachshunds, and nondescript breeds (4.16% each) (Table 1). Similar observations were made by Jadhav *et al*. (2015) [1], Ravi *et al*. (2016) [6], Mahalingaiah *et al*. (2017) [2], and Shil *et al*. (2022) [7], where Labradors were reported as the most susceptible breed. However, Shrivastava *et al*. (2014) [8]

found German Shepherds to be the most affected, while Raju (2023) [5] reported higher prevalence in non-descript dogs. These variations may be due to differences in breed distribution, owner preference and tick exposure in different geographical regions.

Table 1: Breed-wise occurrence of canine babesiosis (n=24)

Breed	No. of cases	Percentage (%)
Labrador Retriever	4	16.6
German Shepherd	3	12.5
Shih Tzu	3	12.5
Golden Retriever	3	12.5
Siberian Husky	3	12.5
Rottweiler	2	8.33
Pit Bull	2	8.33
Spitz	1	4.16
Pug	1	4.16
Dachshund	1	4.16
Nondescript	1	4.16

In the present study on Canine Babesiosis. young adults recorded the higher occurrence (54.16%), followed by mature adults (20.83%), puppies (16.66%) and seniors (8.33%) (Table 2). Similar findings were observed by Mahalingaiah *et al*. (2017) [2], Obeta *et al*. (2020) [3] and Shil *et al*. (2022) [7]. In contrast, Vishwakarma and Nandini (2019) [9] and Raju (2023) [5] reported higher prevalence in puppies. Higher occurrence in young adults may be due to increased roaming, interaction with new environments and incomplete immunity.

Table 2: Age-wise occurrence of canine babesiosis (n=24)

Age Group	No. of cases	Percentage (%)
Puppies	4	16.66
Young Adults	13	54.16
Mature Adults	5	20.83
Seniors	2	8.33

A higher occurrence of canine babesiosis was recorded in male dogs (58.33%) compared to females (41.66%) (Table 3). Similar observations were reported by Mahalingaiah *et al*. (2017) [2], Shil *et al*. (2022) [7] and Raju (2023) [5], whereas Obeta *et al*. (2020) [3] and Oguche *et al*. (2020) [4] reported a higher occurrence in female dogs. The increased susceptibility in males may be attributed to behavioral factors such as greater roaming, territorial activity, and increased exposure to tick-infested environments.

Table 3: Gender-wise occurrence of canine babesiosis (n=24)

Gender	No. of cases	Percentage (%)
Male	14	58.33
Female	10	41.66

Grey-coated dogs showed the higher occurrence (29.16%) in the present study, followed by white (20.80%), black (16.66%), golden (12.5%), black-tan (12.5%) and brown (8.33%) (Table 4). This may be due to breed predispositions or tick visibility differences affecting tick removal.

Table 4: Coat type-wise occurrence of canine babesiosis (n=24)

Coat Type	No. of cases	Percentage (%)
Grey	7	29.16
White	5	20.80
Black	4	16.66
Golden	3	12.5
Black-Tan	3	12.5
Brown	2	8.33

A higher occurrence of canine babesiosis was recorded in dogs that were regularly vaccinated (70.83%), while 29.16% of the affected dogs were irregularly vaccinated or unvaccinated (Table 5). This suggests that routine immunization does not confer protection against *Babesia* spp., highlighting the need for the development and implementation of a specific vaccine targeting this pathogen.

Table 5: Immunization-wise occurrence of canine babesiosis (n=24)

Vaccination Status	No. of cases	Percentage (%)
Regularly vaccinated	17	70.83
Irregular/None	7	29.16

A higher occurrence of canine babesiosis was recorded in dogs that were regularly dewormed (75.0%), while 25.0% of the affected dogs were irregularly dewormed or not dewormed (Table 6). This indicates that routine deworming, although important for general parasite control, does not provide protection against tick-borne infections such as babesiosis.

Table 6: Deworming-wise occurrence of canine babesiosis (n=24)

Deworming Status	No. of cases	Percentage (%)
Regularly dewormed	18	75.0
Irregular/None	6	25.0

Conclusion

The study revealed that a higher occurrence of canine babesiosis was recorded in Labrador Retrievers, young adult dogs, and males. Grey-coated dogs were more frequently affected. Regular immunization and deworming did not offer protection against babesiosis, highlighting the necessity of vector control and the potential development of specific vaccines. These findings emphasize the importance of considering breed, age, gender and management practices when assessing the risk of infection in endemic areas.

Conflict of Interest

Not available

Financial Support

Not available

Reference

1. Jadhav RK, Suryawanshi PR, Deshmukh VV, Chopde NA. Clinical and haematobiochemical observations in canine babesiosis. Indian Vet J. 2015;92(3):55-57.
2. Mahalingaiah M, Ramesh PT, Vijayasarathi SK. Prevalence and clinical studies of canine babesiosis. Intas Polivet. 2017;18(2):244-248.
3. Obeta SS, Okolocha EC, Agina OA. Epidemiology of canine babesiosis in Nigeria. Trop Anim Health Prod. 2020;52:2519-2527.
4. Oguche CJ, Eze CA, Ibekwe BU. Prevalence of canine babesiosis and associated risk factors in Enugu State, Nigeria. Comp Clin Pathol. 2020;29:1053-1059.
5. Raju P. Occurrence of canine babesiosis in relation to breed, age and sex. Indian J Vet Med. 2023;43(1):88-91.
6. Ravi K, Rao P, Prasad VD, Prasad A. Epidemiological studies on canine babesiosis in Andhra Pradesh. J Parasit Dis. 2016;40(2):448-451.
7. Shil S, Sagar PV, Reddy BS. Epidemiology and clinico-pathological studies on canine babesiosis. Indian J Canine Pract. 2022;14(1):25-30.
8. Shrivastava A, Kumar S, Sharma AK. Breed

susceptibility and haematological changes in canine babesiosis. Vet World. 2014;7(3):205-208.
9. Vishwakarma R, Nandini K. Breed and age predisposition to canine babesiosis. Int J Vet Sci. 2019;8(4):234-238.

How to Cite This Article
Vinay YN, Kumar CGK, Isloor S. Epidemiological study on canine babesiosis. International Journal of Veterinary Sciences and Animal Husbandry. 2026; 11(1): 300-302.