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Incidence of canine distemper in dogs

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Abstract

The present study was aimed to record incidence of Canine Distemper in dogs. A total of 105 dogs which were diagnosed to be suffering from Canine Distemper disease on the basis of history, clinical observations, haemato-biochemical alterations and molecular diagnosis (RTR-PCR) were selected for the study. Incidence of CD in the present study was 19.04%. The maximum cases (45%) were found in dogs of 0-6 months of age. Males (75%) were affected more than females. Mongrels were most affected (55%), followed by German Shepherds (15%), Labrador and Doberman (10% each), Pomeranians and cross breeds (5%).

Keywords: Canine distemper, age, breed, sex, incidence

Introduction

Canine Distemper (CD) is considered as a most common, rapidly spreading and highly contagious fatal viral diseases of canine family caused by canine distemper virus (CDV) belonging to genus Morbilli virus, family Paramyxoviridae and characterized by multi systemic disease progression^[1]. The disease is clinically characterized by temporal twitching, abdominal pustules, diphasic fever, ocular and nasal catarrh, gastrointestinal disturbances, pneumonic and neurological complications. The case fatality rate is too high when compared to all other canine diseases after Rabies and Seroprevalence of CDV had been reported to be 70% from south India^[2]. Age-wise incidence of canine distemper is reported to be highest in pups up to 6 months of age followed by 12-18 months and above 36 months of age^[3]. Sex wise incidence of CDV is higher in males and it was observed that males were 2.288 times more prone to CD than females^[4]. Dolichocephalic breeds of dogs are reported to have a higher incidence of disease when compared with brachiocephalic breeds^[5]. Non-descript dogs (Mongrels) contribute to 55.56 per cent of all Canine Distemper diagnosed cases^[6].

Material and Methods

The present study was carried out from March 2021 to August 2021. During this period, a total of 5468 dogs was presented to Veterinary clinical complex, Bhoiguda and campus veterinary Hospital College of Veterinary Science, Rajendranagar, Hyderabad, Telangana and out of which 105 dogs were suspected for CD. Out of which 20 dogs were diagnosed to be suffering from Canine Distemper disease on the basis of history, clinical observation, haemato-biochemical alterations and molecular diagnosis by RT-PCR, forming an incidence of 19.04 percent were selected for the study.

Results

In the present study, out of 105 dogs suspected for CD, 20 dogs were diagnosed to be suffering from Canine Distemper disease forming an overall incidence of CD as 19.04 percent. Age wise incidence with respect to CD indicates decreased chances of incidence with increase in age. Out of 20 positive cases of CD examined, age wise incidence was categorized as 0-6 months, 6-12 months, 12-18 months, 18-24 months and above 24 months, each group comprising of 9, 3, 4, 2, 2, with corresponding percentage of incidence was found to be 45%, 15%, 20%, 10%, and 10%, respectively. (Table-1).

Table 1: Age -wise incidence of canine distemper in dogs (n= 20)

S. No.	Age (months)	No. of Dogs Positive for CD	Percentage (%) of Dogs positive
1	0-6	9	45
2	6-12	3	15
3	12-18	4	20
4	18-24	2	10
5	>24	2	10

Breed wise incidence of CD was found to be higher in Mongrels. Out of 20 positive cases, 11 Mongrel, 3 German shepherds, 2 Doberman, 2 Labrador and 1 Pomeranian and 1 Crossbred Boxer were affected giving the corresponding breed wise incidence rate of 55%, 15%, 10%, 10%, 5% and 5% percent, respectively. (Table-2).

Table 2: Breed-Wise Incidence of Canine Distemper in Dogs (n=20)

S. No	Breed	No. of dogs Positive for CD	Percentage (%)
1	Mongrel	11	55
2	German Shepherd	3	15
3	Dobermann	2	10
4	Labrador	2	10
5	Pomeranian	1	5
6	Crossbred Boxer	1	5

Sex wise incidence of CD in the study revealed that males (75%) are mostly affected by the disease that females (25%). (Table-3).

Table 3: Sex-Wise Incidence of Canine Distemper in dogs (n=20)

S. No	Sex	No. of dogs Positive for CD	Percentage (%)
1	Male	15	75
2	Female	5	25

Discussion

The maximum occurrence of canine distemper was recorded in younger age group dogs (<6 months old). Similar to the present observation, other studies reported highest prevalence of CD in pups up to 6 months of age (40%) followed by 12-18 months and above 36 months (20% each) [3, 6, 7, 9]. The disease was more common in young dogs of < 7 months of age with marked severity [9]. However, these findings were contrary to the observations of others as in their study, most of the dogs were mature [10, 11]. In present study, the age group of 1 year and above was also affected to a greater percentage (40%). The susceptibility of 1-2 years or above age group to infection could be because of poor development of vaccine antibody which may be because of interference of maternal antibodies during the primary vaccination or could be because of poor handling of vaccine [12].

In the present investigation, out of 20 positive cases, 11 Mongrel, 3 German shepherds, 2 Doberman, 2 Labrador and 1 Pomeranian and 1 Crossbred Boxer were affected giving the corresponding breed wise incidence rate of 55%, 15%, 10%, 10%, 5% and 5% percent, respectively. The present findings were in agreement with who observed that Mongrels are mostly commonly affected by CD [6, 12]. Dolichocephalic (Doberman, German shepherd) breeds were more susceptible than Brachiocephalic breeds [3]. Although the exact reason for mixed-breed predominance to CDV infection is unknown. Mongrels may receive less attention, and are considered more apt to roam and contact CDV carrier dogs than their pure-breed counterparts, thereby increasing their risk of infection

[12]. However, the present observations are contrary to the findings others who found that there was no breed predilection [11, 15].

In the present study, incidence of canine distemper virus infection was found to be more in males than on female dogs, which simulate with the findings of who reported more incidence in males than females [6, 13]. This might be due to the reason that the owner's preference towards male dogs was higher. However, found that there was no gender predilection and significant difference in susceptibility was also not observed between males and females [2, 12, 14, 15].

Conclusion

Overall Incidence of CD in the present study was 19.04%. Higher incidence of CD was found in dogs of 0-6 months (45%) of age with males (75%) predominance than females (25%). Mongrels were most affected (55%), followed by German Shepherds (15%), Doberman and Labrador (10% each), Pomeranians (5%), and Crossbreeds (5%).

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