

Epidemiology on canine parvovirus infection

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SUMMARY

A total of 128 faecal samples of dogs suspected for canine parvovirus infection were examined by Haemagglutination (HA) and Haemagglutination inhibition (HI) tests. The prevalence of canine parvovirus infection was 45.30% (58/128) and the age wise maximum (70.20%) prevalence was found in dogs upto 6 month. The breed wise maximum (56.90%) prevalence was in Non-descript dogs and sex wise prevalence revealed no significant difference in male (45.9%) and female (43.3%).

Key words: Canine parvovirus (CPV), Haemagglutination test, Prevalence

Canine Parvovirus causes an acute, viral infection characterized by sudden onset of diarrhoea, vomiting, anorexia and fever with resultant high morbidity and mortality in younger puppies. The disease is prevalent worldwide. During the recent years canine parvovirus infection (CPV-1) has been observed as an emerging disease of young pups. In India, CPV has been first reported in Madras [1] and subsequently in Bombay and Punjab respectively. The present study was undertaken to know the prevalence of canine parvovirus infection and to study various epidemiological parameters. Parvovirus infection is highly infectious and fetal disease of Puppies. The clinical appearances of the disease vary and may be confused with other gastrointestinal diseases. An early diagnosis may enable appropriate treatment and hence improve the prognosis. Prevalence study of parvovirus infection was conducted first time in and around Jabalpur city. This study may be directly or indirectly beneficial in the treatment and prevention of infection in pet by vaccination.

A total of 128 faecal samples from dogs irrespective of breed and sex, showing vomition and diarrhoea were collected using rectal swab and immersed in hanks balanced salt solution (H.B.S.S). The faecal samples were centrifuged at 10000 r.p.m for 10 minutes and supernatant was used as viral antigen. The anti-CPV hyper immune serum was raised in rabbits using commercial parvovirus vaccine Megavac-P (Inact), Indian immunological Private Ltd. The HA test was carried out in 96 well U bottomed microtitre plates with two

fold dilution starting from an initial dilution of 1:2. The highest dilution forming a uniform mat was considered as the end point. Faecal samples were simultaneously tested for specific inhibition of CPV haemagglutinin using a 1:10 dilution of anti-CPV sera. The results were read when buttons were formed in the control wells[3]. The screening of 128 faecal samples of CPV suspected dogs by HA and HI tests, 58 (45.3%) samples were found positive. (Table 1). Age-wise highest prevalence 70.2% of CPV infection was seen in 0 to 6 months (Table 1). The prevalence of CPV infection in dogs of age 6 months to 12 months and in above 12 months were 24.0% and 13.9 respectively. These observations are in agreement with those of [2, 4, 5]. The above results indicated that the prevalence of canine parvovirus infection gradually declined with advancement of age. The virus can grow only in actively dividing cells, so growing puppies are more susceptible as advocated [6].

The breed-wise prevalence of CPV infection showed a highest prevalence (56.9%) in Non-descript dogs and lowest prevalence (20%) in Dalmatian breed. No specific comments can be made on breed susceptibility as the population of breeds varies from geographical area to area. The highest prevalence in Non-descript dogs could be due to the lack of awareness of dog owners who usually pay much attention and care in terms of their vaccination, feeding, management and reporting the ailing dog at an early stage for the treatment. As a result the condition may become severe and leads to increase death in them as also emphasized and stated that early treatment is essential in case of CPV infected dogs to combat dehydration, diarrhoea and vomiting. Sex-wise prevalence showed that male dogs have slightly more prevalence (45.9%) as compared to females (43.3%) which was not statistical significant.

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Table 1: Age, breed and sex-wise prevalence of CPV infection in gastroenteritis affected dogs.

	No. of dogs examined	No. of CPV affected dogs	Prevalence (%)
(A) Age (in month)			
0- 6	67	47	70.2
6-12	25	06	24.0
12 & above	36	05	13.9
Total	128	58	45.3
(B) Breed			
Non-descript	65	37	56.9
Doberman	09	04	44.4
German shepherd	13	05	38.5
Pomeranian	16	06	37.5
Labrador	07	02	28.6
Greatdane	04	01	25
Lhasa-apso	09	02	22.2
Dalmatian	05	01	20
Total	128	58	45.3
(C) Sex			
Male	98	45	45.9
Female	30	13	43.3