

CLINICO-THERAPEUTIC EVALUATION OF CATS WITH SIGNS SUGGESTIVE OF VIRAL DISEASES IN CHENNAI

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ABSTRACT

A total of 104 cases were presented with history of inappetence, dullness, vomiting, diarrhoea, oral ulcers, ocular discharge, nasal discharge, pyrexia in the teaching veterinary hospital of Madras veterinary college. With clinical examination and the present symptoms they were tentatively diagnosed as viral diseases of cats. In this study, the proportion of cases with Persian breed (21.15%) was lower than domestic short hair breed (78.8%), male cats revealed higher positivity (55.76%) than female cats (44.2%). Age-wise prevalence was studied with 0-6 months showing higher positivity (42.3%) than other age groups. The proportion of cases was higher in unvaccinated cats (92.3%) and symptoms wise positive proportion of cases like inappetence (41.34), vomiting (34.6), diarrhoea (19.2), ocular and nasal discharge (13.46%), respiratory distress (7.6%), oral ulcer and pyrexia (5.7%), incoordination (3.84) were recorded. All the suspected cats were treated with fluid therapy along with antibiotics and supportive therapy and all the cats recovered without any complications. It was further advised to vaccinate the cats after the recovery period of 15 days due to the presence of antibodies in the circulation.

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INTRODUCTION

Domestic and wild felines are infected with many viral pathogens like feline herpesvirus-1, feline parvovirus, feline calicivirus, feline enteric corona virus, feline infectious peritonitis, feline leukemia virus, rota virus, feline immuno deficiency virus and feline panleukopenia

virus (Chaiyasak *et al.*, 2020). Feline parvovirus is a common ancestor of Canine parvovirus (Ikeda *et al.*, 2002). Feline herpes virus type-1 and calicivirus are the most important causative agents of upper respiratory tract diseases in cats showing rhinotracheitis, stomatitis, gingivitis and nasal/facial ulceration (Synowiec *et al.*, 2019). Similarly, Feline panleukopenia virus infection leads to vomiting, diarrhea, dehydration, fever, anorexia and leukopenia (Dallara *et al.*, 2019). Viral diseases can be prevented by vaccination and treatment of affected animals includes early identification of infection and supportive therapy. The viral infections can be diagnosed tentatively based on clinical signs like rhinotracheitis, facial ulceration, diarrhoea and vomiting. This present study, describes the occurrence of feline viral diseases along with different clinical signs.

CASE HISTORY AND CLINICAL EXAMINATION

Totally 104 cats with different age groups reported with history of fever, vomiting, diarrhoea, incoordination, oral ulcers, ocular and nasal discharge were presented to small animal medicine unit of teaching veterinary clinical complex at Madras Veterinary College, Chennai. The cases were physically examined for the clinical signs which were suggestive of viral infections.

TREATMENT AND RESULTS

The infected cats were treated with appropriate fluid therapy (Ringer's lactate @10 ml/kg body weight), antibiotics

(amoxicillin and cloxacillin @ 10-20 mg/kg body weight), anti-emetics (Vomidone at @ 0.2-0.5 mg/kg body weight) and anti-diarrhoeal (metronidazole @ 10 mg/kg body weight) along with probiotics @ half a teaspoon in water twice a day. In addition DNS @ 10 ml/kg body weight was administered in case of hypoglycemic cats, injection B-complex @ 1-2 ml i/m and supplemented with Viusid syrup @ 1ml/5kg body weight for a period of one week.

Domestic short haired (DSH) breeds show high positive prevalence of 78.8% when compared to Persian breeds (21.15%). Similarly, male cats show higher proportion of cases of 55.76% than female cats (44.2%) (Table 2 & Fig 2). Proportion of cases 0 to 6 month, 6 to 9 months, 9 to 12 months and above one year of age were 42.3%, 14.4%, 8.6% and 33.6%, respectively. Age group of 0 to 6 months have higher proportion of cases than age group of above one year followed by 6 to 9 months and 9 to 12 months (Table 1 & Fig 1).

Symptoms wise inappetence (41.34%) was high followed by vomiting (34.6%), diarrhoea (19.2%), ocular and nasal discharge (13.46%), respiratory distress (7.6%), pyrexia and oral ulcer (5.7%), and in-coordination (3.84%), respectively (Table 2 & Fig 2).

Positive prevalence of vaccinated cats in Persian breeds was 2.8% and in DSH breeds was 4.8% (Table 5 & Fig 5). Similarly, the proportion of cases of unvaccinated cats of Persian breed was 18.2% and DSH breeds was 74%.

DISCUSSION

In the present study, higher incidence rate was observed in domestic short hair breed (78.8% ; 82 cases) in comparison with Persian cats (21.15% ; 22 cases). Gogone *et al.*, (2019) opined that domestic short hair breeds because of their large population, acquired the infection from stray cats and act as a source of infection to other animals. In this present study area, most of the pet owners were rearing the stray cats as pets and they were not immunized against the viral diseases. The general perception with the owners were these breeds are very sturdy and require less maintenance including vaccination.

In the present study, 55.76% (58) males and 44.20% (46) females exhibited clinical signs suggestive for the viral diseases. The high occurrence in males might be due to roaming behaviour. Citarov and Moizisova (2020) reported higher incidence of feline pan leukopenia in male cats than female cats. However, Eissae *et al.*, (2020) reported high positivity for canine parvo virus-2 in females, which might be due to breeding in unhygienic places leading to CPV-2 infection in kittens.

In this study, 42.3%, 14.4%, 8.6% and 33.6% samples were affected with symptoms of viral diseases in the age group of cats with 0-6 months, 6-9 months, 9-12 months and >1 year, respectively. The higher positivity was noticed in 0-6 months. The present finding is in accordance with Van Kuijk *et al.*, (2019) who reported that highest frequency of disease distribution

was in the age group of 6-10 weeks (39%) followed by 0-5 weeks of age (13%). It was also reported that young age groups were easily prone for the infection by exposure, inadequate immunity, lack of vaccination. Symptoms wise proportion of cases were inappetence (41.34%), vomiting (34.6%) and diarrhoea (19.2%). However, as per Sarkar *et al.*,(2015) it can be due to sudden changes in diet, food allergies, parasitic infestations and viral infections also. Respiratory distress (7.6%) in present study in cats was contrasting with the results of Chaudhari and Atsanda (2002) who reported respiratory infection as 12% in cats. It may be caused by viruses, bacteria and less often fungi and sometimes from faulty medications. Ocular discharge (13.46%) in the present study in cats, agreed with results of Sarkar *et al.*,(2015), who opine that most of the common causes of eye infections are caused by calci virus and herpes virus. treated with antibiotics, supportive therapy and immune booster with eye drops.

Oral ulcer and pyrexia (5.7%) in this case study can be the main signs of calci virus infection (Gaskell *et al.*, 2006). Anorexia accompanied by hypersalivation due to oral ulcers in tongue is prominent in calcivirus infection. Similarly, in-coordination (3.84%) with fever can be associated with feline calci virus infection.

Proportion of cases of vaccinated cats in Persian breeds was 2.8% and in DSH breeds was 4.8% in the present study. This was in agreement with Tuzio *et al.*, (2005) who reported that cats administered with FPLV vaccine significantly reduced

the occurrence of disease compared to unvaccinated cats. Vaccinated cats which contract FPLV show mild clinical signs and symptoms compared to unvaccinated cats (Gore *et al.*, 2006). Positive prevalence of unvaccinated cats of Persian breed was 18.20% and DSH breeds were 74.00%. Laboratory confirmation for all the cases could not be carried out to verify the clinical signs due to various limiting factors. Since all the cases were presented at the out-patient unit within a limited time frame, treatment was started based on the history, clinical signs and experience of the vets. Future studies by incorporating laboratory confirmations needs to be carried out.

Lack of awareness among the owners regarding vaccination protocol, proper hygienic measures and practices lead to increased exposure of cats to viral infections. Most of the owners adopt the stray cats without knowing the history of the cats and perceive the animals to be sturdy and hard. Also factors like sharing litter boxes, seasonal variation, visiting pet hospitals and improper vaccination schedule predispose the cats to infection. This information will aid in the development of effective prevention and control strategies for combating these viral diseases in pet cats.

Table.1. Age-wise positive prevalence of infected cats

Age	No.of infected cats	Positive prevalence (%)
0-6 months	44	42.30
6-9 months	15	14.40
9-12 Months	9	8.60
>1yr	35	33.60

Table 2: Symptoms-wise prevalence of Infected cats

Symptoms	No.of cats	Positive prevalence
Oral ulcers	6	5.70
Inappetance	43	41.34
Incoordination	4	3.84
Vomition	36	34.60
Diarrhea	20	19.20
Pyrexia	6	5.70
Dehydration	40	38.46
Respiratory distress	8	7.60
Ocular and Nasal discharge	14	13.46

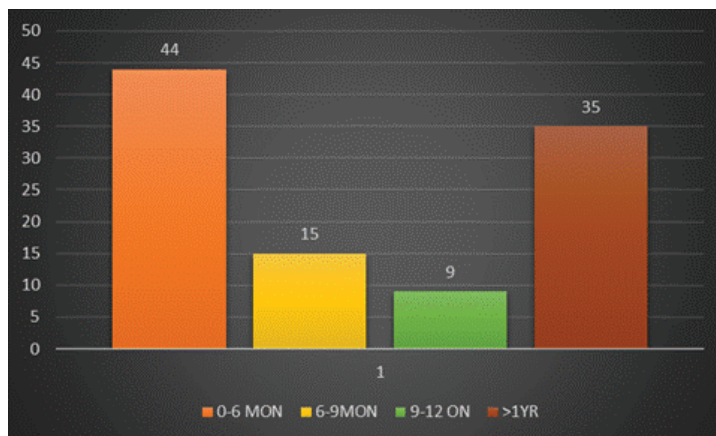


Fig.1. Age-wise prevalence of infected cats

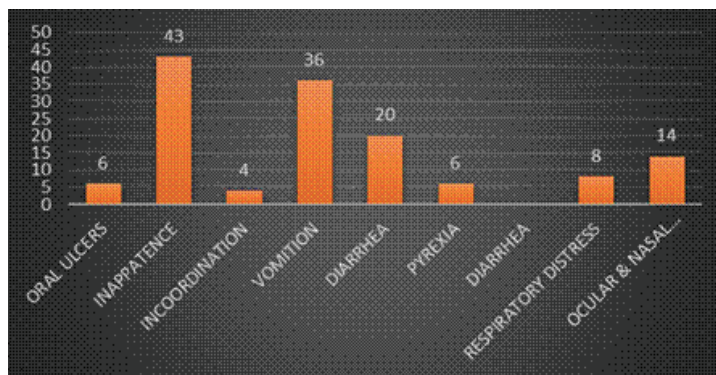
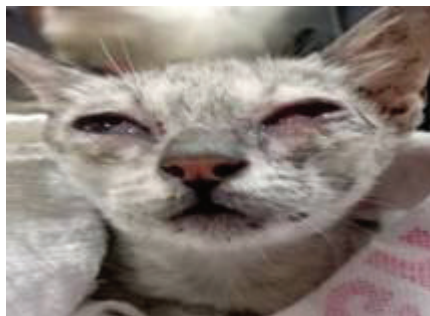


Fig.2. Symptoms-wise prevalence of Infected cats

Photos of Infected cats

Photos of infected cats with ocular discharge, Nasal discharge, oral ulcer and salivation





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