

Management of panleukopenia in domestic cats at Veterinary Teaching Hospital of Hasanuddin University

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ABSTRACT: Feline panleukopenia virus (FPV) is a viral disease with the main causative agent being a virus in the Parvoviridae family, which is highly contagious and can attack young cats that are clinically characterized by leukopenia, vomiting, depression, dehydration, and diarrhea. Clinical examination revealed dehydration, yellow vomiting, and bloody diarrhea. A supportive examination in the form of a rapid test marked by the presence of lines in panels C and T shows positive results for infection with the feline panleukopenia virus. Treatment of FPV cases was carried out with supportive therapy in the form of Ringer lactate fluid, multivitamins combined with imboost, antibiotics in the form of ceftriaxone, and anti-inflammatory drugs in the form of tolfedine for 7 days. The cat's condition experienced significant improvement and responded well to the treatments given. The patient was recover and return home on the seventh day with a normal body condition.

Keywords:

feline panleukopenia virus, diarrhoea, cats, rapid test

■ INTRODUCTION

Feline panleukopenia virus (FPV) is a viral disease with the main causative agent being a virus in the Parvoviridae family, which is highly contagious and attacks mainly young cats that can be clinically characterized by leukopenia, vomiting, depression, fatigue, and diarrhea. Transmission of the panleukopenia virus in cats can occur via the fecal-oral route either directly or indirectly. The panleukopenia virus can enter the body and replicate in actively dividing cells such as spinal cord, lymphoid tissue, small intestinal epithelium, cerebellum and retina in neonatal cats which can cause panleukopenia, ataxia, incoordination of movements, and visual disturbances in young animals (Truyen *et al.* 2009; Tilley & Smith 2011).

Diagnosis of FPV in cats can be made through information from the owner in the form of anamnesis, clinical signs, and supporting examinations, such as virus isolation, electron microscopy, immunochromatographic assay (ICG), polymerase chain reaction (PCR), and enzyme-linked immunosorbent assay (ELISA). Immunofluorescence (Marlissa *et al.* 2022). Young cats aged < 12 weeks have morbidity and mortality rates ranging from to 25-90%, they are an important concern in treating young cats infected with FPV with a low recovery rate (Dawson *et al.* 2001). Although the incidence of FPV in cats is frequently reported, to the best of our knowledge, there are no previous reports on the management of FPV in cats. This report presents a case of FPV in a cat at a Veterinary Teaching Hospital.

■ CASE

Signalement: A one-year-old male domestic cat, Jeje, was brought to the Veterinary Teaching Hospital of Hasanuddin University on January 5, 2023. **Anamnesis:** The cats had blood in their stool, yellow vomit, and loss of appetite to eat and drink. The cat weighed 4.2 kg and had a temperature of 39.9 °C. **Clinical signs:** The cat was dehydrated, and the body required further examination and observation. Supporting examinations were performed using a rapid test kit. **Diagnosis:** The rapid test kit yielded a positive result for feline panleukopenia virus.



Figure 1. The patient had blood in the stool, and the results of the rapid test kit were positive for feline panleukopenia virus.

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■ RESULTS AND DISCUSSION

Based on the patient's history, physical examination, and clinical signs, the was diagnosed with feline panleukopenia. The therapy given to the patient was in the form of giving the antibiotic Ceftriaxone at a dose of 0.42 ml 2 times a day IV. The anti-inflammatory agent tolfedine at a dose of 0.1 ml IM. Fluid therapy with lactated Ringer's solution. An anti-emetic in the form of ondansetron at a dose of 0.42 ml. Anti-diarrhea in the form of 1 ml of kaolin pectin and multivitamin in the form of curcumin syrup mixed with 1 ml of imboost before ting. Immunochromatography (ICG) can detect specific antigens or antibodies from FPV through antigen and antibody binding. The presence of a pink line in columns T and C indicates a positive result for FPV infection in patients (Jayalie *et al.* 2015). The damage that occurs results in malabsorption and an increase in cell permeability, and fluids around the intestine cannot be absorbed properly (Truyen *et al.* 2009). Actions taken to treat dehydration included fluid therapy in the form of Ringer lactate (RL) (Albab *et al.* 2022).

Kaolin pectin was given to help and stop diarrhea which binds by binding to bacterial enterotoxins and protecting the intestinal mucosal lining. Diarrhea is characterized by consistency of liquid or paste-shaped stools with varying frequencies (Kahn 2010). Anti-inflammatory in the form of tolfedine was done to reduce fever in cats. Tolfenamic acid is a nonsteroidal anti-inflammatory agent that functions as an anti-inflammatory, analgesic, and antipyretic agent. Ceftriaxone is a broad-spectrum beta-lactam cephalosporin antibiotic that inhibits bacterial cell wall synthesis to prevent secondary infections in FPV cases (Albarellos *et al.* 2007). Ondansetron was administered as symptomatic treatment to prevent vomiting in cats. Ondansetron is a dissociating antagonist of serotonin receptor subtype 5-HT₃. Serotonin can stimulate vagal and splanchnic nerve receptors which are connected to the medullary vomiting center so that inhibition of serotonin action will prevent nausea and vomiting (Ye *et al.* 2001).

Curcuma plus and Imboost were used as supplements. Curcuma plus contains multivitamins in the form of vitamin D, vitamin A, and vitamin B complexes (Ulum *et al.* 2018). The patient was treated at the Veterinary Teaching Hospital of Hasanuddin University for seven days before being sent home. The patient responded well to the treatment given and was able to restore normal conditions to the cat.

■ CONCLUSION

Based on the results of the examination and rapid testing, the patient was diagnosed with panleukopenia. After 7 days of intensive care at the Veterinary Teaching Hospital of Hasanuddin University, the cat's condition has improved.

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