Treatment of Suspect Feline Panleukopenia in Cat at Healthy Pet Animal Clinic in Madiun

Henny Endah Anggraeni[1*], *Muhammad* Nurhudayanto [1], and *Winantika* Aprillia Mutiara Fitri [2]

[1]Paramedic Veteriner Study Program, College of Vocational Studies, IPB University, Indonesia
[2]Healthy Pet Animal Clinic, Madiun, East Java, Indonesia

Abstract. Feline panleukopenia is a highly contagious, often fatal, viral disease of cats. This scientific report aims to describe information about treatment of suspect feline panleukopenia in cat at Healthy Pet in Madiun East Java, Indonesia. Daily observations on a cat (Moni) hospitalized for dehydration, vomiting and diarrhoea, WBC count 1,400 cell/mm³. The treatment had 3 components of monitoring, medication, and biosecurity application. Monitoring was 4 times a day (temperature, faeces consistency, vomiting and appetite) for 8 days. Medication was antibiotics Sulfadiazine® to treat secondary bacterial infections, Ondansetron® to control of vomiting and Loperamid® to control of diarrhoea. Fluid therapy RL was performed to correct dehydration and electrolyte abnormalities. Biosecurity application was applied as breaking the chain of transmission (isolation room, sanitation 2 times a day and physical distancing). The cat was declared healthy on 8th day based on WBC count 15,900 cell/mm³, good appetite and normal defecation.

Key words: Feline panleukopenia, Healthy Pet Madiun, Treatment

1 INTRODUCTION

1.1 Background

Feline panleukopenia is a viral disease that attacks young cats or kittens, with the primary agent being the Feline panleukopenia virus which is the prototype of parvovirus. panleukopenia means a decrease in the number of all of the white blood cells in the body. White blood cells play a major role in immunity and are important in defending against infections and diseases. Clinical symptoms caused by this disease are leukopenia, vomiting, depression, diarrhoea, and dehydration [1]. The transmission route of this virus is through faeces, vomit, saliva, and urine of infected cats. The treatment for this suspect is to isolate the infected cat to break the chain of transmission.

Feline panleukopenia is most likely to occur in cats younger than 1 year of age, but it can occur in unvaccinated or improperly vaccinated cats of all ages [7]. However, kitten deaths have been reported in households of fully vaccinated kittens, possibly because of exposure to large amounts of virus in the environment [8]. Cats with panleukopenia that survive the first 5 days of treatment usually recover, although recovery is often more

* Corresponding author: hennyendahanggraeni@apps.ipb.ac.id

prolonged than it is for dogs with parvoviral enteritis. In 244 cats with feline panleukopenia from Europe, the survival rate was 51.1% [7].

Healthy Pet Animal Clinic is an Animal Clinic that handles several pets and exotic animal diseases. Intensive infectious disease treatment carried out at the Clinic will affect the recovery rate of the affected cat.

1.2 Purpose

This study aims to describe and provide information about the treatment of suspect feline panleukopenia in cats.

2 CASE ANALYSIS

Methods of collecting data was using primary and supporting data collection. Primary data was carried out by observation of FPV suspects at the Healthy Pet Madiun clinic. Primary data was observations (anamnesis, clinical examination, feeding and drinking, sanitation, daily observation, treatment) of suspect feline panleukopenia at Healthy Pet Madiun clinic, East Java, Indonesia. Supporting data was obtained from the literature related to FPV. Observations were conducted on one cat (her name is Moni) with suspect feline panleukopenia.

3 DISCUSSION

Anamnesis is not appetite and diarrhoea. According to Mahendra et al. [2], common symptoms in cats with FPV infection are vomiting, diarrhoea and decreased appetite. Signalement of suspect feline panleukopenia at healthy pet clinic Madiun is presented in Table 1.

Table 1. Signalement of cats suspect feline panleukopenia

1.	Name	Moni
2.	species	cat
3.	Race/breed	Mix domestic
4.	Fur colour	Red tabby
5.	Gender	female
6.	Age	>1 years old
7.	Special sign	There is an orange line on the left chest

Moni had a weight of 2.8 kg and body temperature of 39.2 °C. The cat was dehydrated and the skin turgor was more than 3 seconds. Results of haematology blood examination are described in Table 2.

Table 2. The results of the first Moni's hematology examination

Inspection	Result	Normal Range	Unit
White Blood Cell (WBC)	1.4	5.5-19.5	10^3/µL
Red Blood Cell (RBC)	7.4	4.60-10.00	10^6/µL
Hemoglobin (Hb)	9.2	9.3-15.3	g/dL
Hematocrit (HCT)	39.5	28.0-49.0	%
Platelets (PLT)	75	100-514	10^3/µL

Based on the physical examination and haematology results, veterinarian diagnosed that it was suspect feline panleukopenia. White blood cell or WBC count reduced from the normal range. According to Ishida [3], the normal number of white blood cells in cats is 5,500 – 19,500 cells / mm³, Moni's WBC level was 1,400 cells / mm³. According to Purnamaningsih [4] in his research, the number of white blood cells in cats infected by FPV is generally 1,700-4,900 cells / mm³.

Monitoring was carried out 4 times a day including examination of activity and appetite, examination of temperature, faeces and vomit. According to Suartha [5], to prevent bad conditions, monitoring is performed every 4 h in 24 h and patient monitoring depends on the patient's condition. Monitoring the development of the cat's condition can be reviewed from the consistency of faeces, and vomit checking was also very important in monitoring the development of the cat's condition. Vomiting is one of the clinical signs of FPV, so vomiting becomes one of the indicators of a cat's condition. During the treatment, the cat vomited on the 1st day, and the 2nd day.

Medication was given using antibiotics Sulfadiazine® to treat secondary bacterial infections that commonly develop due to the lack of white blood cells and the resulting reduced immunity. Ondansetron® was given to control of vomiting and Loperamid® to control of diarrhoea. Vitamin B injections every day was extremely helpful. Fluid therapy RL was applied to correct dehydration and electrolyte abnormalities. Prednisone® at a dose of 1 mg / kg PO [6] is a drug that serves as an anti-inflammatory. The drug was mixed into 10 capsules for 5 days consisting of Sulfadiazine® 50mg, Neurobion® 10mg, Elkana® 35mg and Predison® 1.5mg.

The body temperature of Moni fluctuated until the 4th day. The body temperature stabilized on the 5th day and Moni was declared healthy on 8th day based on WBC count 15.900 cell/mm³ (Table 3), good appetite and normal defecation. The normal range of white blood cell count was 5.5-19.5x103/µL.

Table 3. The result of Second Haematology Examination

Inspection	Result	Normal Range	Unit
White Blood Cell (WBC)	15,9	5,5-19,5	10^3/µL
Red Blood Cell (RBC)	8,56	4,60-10,00	10^6/µL
Hemoglobin (Hb)	10,5	9,3-15,3	g/dL
Hematocrit (HCT)	346,2	28,0-49,0	%
Platelets (PLT)	223	100-514	10^3/µL

The treatment of FPV disease is to apply strict hygiene and biosecurity in the clinic. Strict hygiene can reduce the spread of FPV disease. Washing hands before and after handling patients will reduce the rate of disease transmission. Infected animals are placed in infectious hospitalizations using glass isolation cages equipped with air ducts located separate from non-infectious hospitalizations with air conditioning. Sanitation is carried out 2 times a day using disinfectants containing active hypochlorite.

4 CONCLUSION

In this study, the treatment consisted of 3 components, i.e., monitoring, medication and biosecurity application. Monitoring was performed 4 times a day (temperature, faeces consistency, vomiting and appetite) for 8 days. Medication was using antibiotics

Sulfadiazine® to treat secondary bacterial infections, Ondansetron® to control of vomiting and Loperamid® to control of diarrhoea. Fluid therapy RL was performed to correct dehydration and electrolyte abnormalities. Biosecurity application was applied as breaking the chain of transmission (isolation room, sanitation 2 times a day and physical distancing). The cat was declared healthy on 8th day based on WBC count 15,900 cell/mm^3, good appetite and normal defecation.

Acknowledgement

The case study was conducted at the Healthy Pet Animal Clinic, Madiun, East Java, Indonesia

References

1. Tilley, L.P. and Smith, F.W.K. The 5-Minute Veterinary Consult: Canine and Feline, 3e, lviii, 1487 p.Baltimore, MD: Lippincott Williams & Wilkins (2004).
2. Mahendra, Y. N., Yuliani, M. G. A., Widodo, A., Diyantoro, D., & Sofyan, M. S. A Case Study of Feline Panleukopenia in Cats at The Educational Animal Hospital of Universitas Airlangga. Journal of Applied Veterinary Science And Technology, 1(1), (2020).
3. Ishida, T, How to Get Maximum Information Out of Feline Hematology. Prosiding WSAVA World Congress Proceedings (2011).
4. H. Purnamaningsih, S.Indarjulianto, Y.Yanuartono, A. Nururrozi, I. Widiyono, R. Hayati, Jurnal Sain Veteriner. Vol 38, No 2 (2020)
5. Suartha IN. Terapi Cairan pada Anjing dan Kucing. Laboratorium Penyakit Dalam Fakultas Kedokteran Hewan Universitas Udayana, Denpasar. Buletin Veteriner Udayana. 2(2):69-83. (2010).
6. Plumb DC. Veterinary Drug Handbook Sixth Edition. PharmaVet Inc. Stockholm, Wisconsin. ISBN: 978-0-8138-1097-3 (2008).
7. Jane E. Sykes. Elsevier Public Health Emergency Collection. Canine and Feline Infectious Diseases. 2014 : 187–194.
8. Kruse B.D., Unterer S., Horlacher K. Prognostic factors in cats with feline panleukopenia. J Vet Intern Med. 2010;24:1271–1276.