

## KAJIAN KLINIS DAN LABORATORIS *FELINE PANLEUKOPENIA*

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### INTISARI

*Feline Panleukopenia* (FPL) merupakan penyakit pada kucing yang disebabkan oleh *Feline Panleukopenia Virus* (FPV) dengan morbiditas dan mortalitas tinggi. Diagnosis FPL dapat dilakukan berdasarkan gejala klinis, pemeriksaan laboratoris, dan identifikasi virus penyebabnya, baik secara molekuler maupun patologis. Tujuan penelitian ini adalah menentukan diagnosis FPL berdasarkan gambaran klinis, laboratoris, dan identifikasi FPV menggunakan *Polymerase Chain Reaction* (PCR). Penelitian ini menggunakan 10 ekor kucing yang menunjukkan gejala FPL berdasarkan riwayat, pemeriksaan fisik, dan pemeriksaan laboratoris. Kucing diambil sampel darah untuk pemeriksaan hematologi, sampel feses untuk pemeriksaan antigen dan identifikasi FPV dengan metode PCR dengan target gen penyandi Viral Protein-2 (VP-2). Dua ekor kucing yang mati dilakukan nekropsi untuk pemeriksaan patologi anatomi dan histopatologi. Data yang diperoleh disajikan secara deskriptif dan dianalisis secara kuantitatif dan kualitatif, tingkat kerusakan usus halus dibuat skor 0-4 berdasarkan bentuk hemoragi dan nekrosisnya. Hasil penelitian menunjukkan FPL lebih banyak diderita kucing yang berusia dibawah 7 bulan (6 ekor/60%) dibanding kucing berusia 7-12 bulan (4 ekor/40%). Kucing yang terinfeksi lebih tinggi yang berjenis kelamin jantan (80%) dibandingkan kucing betina (20%). Gejala klinis FPL yaitu anoreksia (100%), lesu (70%), demam (60%), muntah (60%), diare (50%), anemia (10%), dehidrasi (10%), halitosis (10%), hipersalivasi (10%), konjungtivitis (10%), *discharge* nasal (10%), dan lakrimasi (10%). Hasil pemeriksaan *rapid test* antigen FPV menunjukkan 7 kucing positif dan 3 kucing negatif. Hasil pemeriksaan total leukosit diperoleh 5 dari 10 sampel darah kucing (50%) terjadi penurunan leukosit yaitu  $<5.500 \times 10^3/\mu\text{l}$  dan 2 dari 10 sampel (20%) memiliki jumlah leukosit pada kisaran normal ( $5.500-19.500 \times 10^3/\mu\text{l}$ ), dan 3 sampel tidak dilakukan pemeriksaan. Hasil pemeriksaan PCR menunjukkan fragmen gen FPV berhasil diamplifikasi pada seluruh sampel yang diuji (8 ekor). Pemeriksaan patologi anatomi menunjukkan adanya hemoragi pada duodenum dan jejunum kucing 02 dan ileum kucing 03. Pemeriksaan histopatologi kucing 02 dikelompokkan skor 4 dan kucing 03 pada skor 2. Hasil pemeriksaan mikroskopis terlihat adanya kerusakan pada epitel usus dengan adanya dilatasi dan nekrosis pada vili, ekstrasvasi eritrosit pada bagian mukosa dan infiltrasi sel radang serta *inclusion bodies*. Berdasarkan hasil tersebut dapat disimpulkan bahwa diagnosis FPL dapat dilakukan berdasarkan gambaran klinis, laboratoris, dan dapat diteguhkan dengan identifikasi molekuler menggunakan PCR.

**Kata Kunci:** *Feline panleukopenia*, *Parvoviridae*, patologis, patologis, PCR

## CLINICAL AND LABORATORY STUDY OF FELINE PANLEUKOPENIA

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### ABSTRACT

Feline Panleukopenia (FPL) is a disease in cats caused by Feline Panleukopenia Virus (FPV) with high morbidity and mortality. The diagnosis of FPL can be made based on clinical symptoms, laboratory examinations, and identification of the virus causing it, both molecularly and pathologically. The purpose of this study was to determine the diagnosis of FPL based on clinical, laboratory and identification of FPV using Polymerase Chain Reaction (PCR). This study used 10 cats that showed symptoms of FPL based on history, physical examination, and laboratory examination. Cats were taken blood samples for hematological examination, feces samples for antigen examination and identification of FPV by PCR method with the target gene encoding Viral Protein-2 (VP-2). Two cats that died were necropsied for pathology and histopathological examination. The data obtained were presented descriptively and analyzed quantitatively and qualitatively, the level of damage to the small intestine was scored 0-4 based on the form of hemorrhage and necrosis. The results showed that FPL was more common in cats under 7 months of age (6/60%) than cats aged 7-12 months (4/40%). The number of infected cats was higher in male (80%) than in female cats (20%). Clinical symptoms of FPL are anorexia (100%), lethargy (70%), fever (60%), vomiting (60%), diarrhea (50%), anemia (10%), dehydration (10%), halitosis (10%), hypersalivation (10%), conjunctivitis (10%), nasal discharge (10%), and lacrimation (10%). The results of the FPV antigen rapid test showed that 7 cats were positive and 3 cats were negative. The results of total leukocyte examination showed that 5 of 10 samples of cat blood (50%) had a decrease in leukocytes, namely  $<5,500 \text{ } 10^3/\mu\text{l}$  and 2 of 10 samples (20%) had leukocyte counts in the normal range ( $5,500\text{-}19,500 \text{ } 10^3/\mu\text{l}$ ), and 3 samples were not tested. The results of the PCR examination showed that the FPV gene fragment was successfully amplified in all samples tested (8 cats). Anatomical pathological examination showed the presence of hemorrhage in the duodenum and jejunum of the cat 02 and the ileum of the cat 03. Histopathological examination of cat 02 was grouped with a score of 4 and cat 03 on a score of 2. The results of microscopic examination showed that there was damage of the intestinal epithelium with dilatation and necrosis of the villi, extravasation of erythrocytes in the mucosa and infiltration of inflammatory cells and inclusion bodies. Based on these results, it can be concluded that the diagnosis of FPL can be made based on clinical, laboratory, and can be confirmed by molecular identification using PCR.

**Keywords:** *Feline panleukopenia*, *Parvoviridae*, pathological, PCR