TITLE: COINFECTION BY FELINE LEUKEMIA VIRUS AND CANINE PARVOVIRUS 2C IN FELINE

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ABSTRACT:

The feline leukemia virus (FeLV) belongs to the family *Retroviridae,* genus *Gamaretrovirus* and it is common infectious disease in cats. On the other hand, the canine parvovirus type 2 (CPV-2) from the family *Parvoviridae*, genus *Protoparvovirus* is a contagious virus mainly affecting dogs. Probably, CPV-2c virus has originated from a mutation of feline panleucopenia virus (FPV) because of their high antigenic similarity. Three different variants have already been identified as CPV-2a, CPV-2b and CPV-2c. This way, the aim of this study is to report a case of FeLV and CPV-2c coinfection in a 4-month-old feline in the state of Santa Catarina, Brazil. The animal presented apathy, hyporexia, hematochezia, hypocor-mucosa and ulcers in the oral cavity. The hemogram displayed an arregenerative anemia and leucopenia, and the hematocrit was 7%. After five days, the clinical condition worsened and the animal maintained feverish peaks (39.0 - 41.2ºC) and presented a hematemesis episode. The respiratory condition also worsened, with the presence of pulmonary rales, and the radiography revealed fluid in the left hemithorax. The SNAP® ELISA FIV_Ab/FeLV_Ag combo test (IDEXX) detected FeLV antigen, and in order to analyze other viral diseases, a feline stool sample was collected and submitted to polymerase chain reaction (PCR) technique with partial amplification of the VP2 gene of CPV- 2. Sequencing and phylogenetic analysis revealed a CPV-2c variant. We suppose the sepsis that killed the patient was caused by an association of clinical changes due to coinfection by two important viral agents. Both FeLV and CPV-2 are immunosuppressive viruses and can act directly on the bone marrow of their hosts. It is important emphasize that CPV-2c infection in felines does not follow a homogeneous pattern. This reflects in the description of the presence of the pathogen in healthy animals and also in cats exhibiting gastroenteric clinical signs. Further studies are needed regarding cross-infection between dogs and cats to clarify the role of CPV-2c as a potential etiological agent capable of determining clinical disease in cats. The present study detected for the first time in Brazil the occurrence of CPV-2c in a feline, coinfected with FeLV, two important viral agents.

Keywords: Viral co-infection, CPV-2c, FeLV

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