

Title: SEROLOGICAL AND MOLECULAR CHARACTERIZATION OF FELINE IMMUNODEFICIENCY VIRUS (FIV) AND FELINE LEUKEMIA VIRUS (FeLV) IN FREE-RANGING JAGUAR (*PANTHERA ONCA*), IN THE PANTANAL MATOGROSSENSE

Autors Maruyama, F. H.¹; Silva, C. P. A.¹; Onuma, S. S. M. ²; Kagueyama, F. C.¹; Jarrah, S. A.¹; Ito, A. T. H.¹; Candido, S. L.¹; Nakazato, L.¹; Dutra, V.¹.

Institution ¹UFMT – Universidade Federal de Mato Grosso (Av. Fernando Correia da Costa, nº 2.367, Cep 78060-900, Bairro Boa Esperança, Cuiabá - MT); ²Estação Ecológica de Taiamã, Instituto Chico Mendes de Conservação da Biodiversidade – ICMBio, Cáceres, MT, Brasil.

Abstract:

Feline immunodeficiency virus (FIV) and feline leukemia virus (FeLV) are endemic in domestic cat populations worldwide. Although, these retroviruses differ in their potential to cause disease, FeLV is more pathogenic than FIV, they can be a risk to wildlife population and represent a threat to biodiversity. Both viruses have tropism for lymphoid tissue and induce immunosuppression, affecting multiple organ system and susceptibility to opportunistic infections. In Brazil, antibodies to FIV have been found in captive and free-ranging jaguars and captive jaguar have been shown exposed to the FeLV. Thus, we aimed to investigate the exposure to FIV and FeLV infections of 17 free-ranging jaguars (*Panthera onca*) captured in Pantanal Matogrossense. This study was approved by the ethics committee animal use (CEUA) in the University Federal of Mato Grosso - UFMT as protocol nº23108.010014 / 14-0. Serum and blood sample were collected from each animal. Serological and molecular characterization for FIV and FeLV was performed using commercial kits Allere® and the assay polymerase chain reaction (PCR) that detects proviral DNA, respectively. In this study, we did not find any serologic evidence and this can be explained based in infections stages, latent stage, viral replication and very low levels of infective virus and neutralizing antibody. However, the PCR detected (1/17) jaguar positive to FIV and (1/17) to FeLV, that show the sensibility of PCR technique that allows detection of minute amounts of viral DNA. FIV is transmitted by biting and FeLV by close contact, thus the solitary habits of jaguars do not favor transmission. The viruses can be spread through saliva, blood, breast milk, and other fluids, and transplacental transmission has been reported. This is the first reporter of FeLV infection in free-ranging jaguars. Therefore, detailed studies are required to better understanding of these retroviruses infectious in wild felids and to develop conservation management strategies.

Keywords: feline retroviruses, FIV, FeLV, jaguar.

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