ORT. 01 - Evidence of *Human alphaherpesvirus* 1 and *Gammaherpesvirus callitrichine* 3 in non-human free-living primates in the state of Rio de Janeiro

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Introduction: The *Herpesviridae* family harbors a large number of viruses that infect a variety of animal types, including humans and non-human primates. The transmission of humans to non-human primates can occur through contact scratches with lesions, infected saliva and mainly through food offered contaminated to monkeys. The close relationship between humans and non-human primates allows this transmission between different species. Therefore, cross-infection can lead to severe illness or even death for both the animal and man. In 2017, during the outbreak of yellow fever in Brazil, mainly in the state of Rio de Janeiro, most of the non-human primates S*apajus sp, Leontopithecus sp, Alouatta sp* and *Callithrix sp*., obtained a negative result for the ongoing infection, the cause of death of these animals until then was not identified.

Objective: The present project aims to investigate and detect the possible circulation of herpesvirus in the population of non-human primates that were negative for the infection of yellow fever.

Methodology: The dead monkeys were found in several regions and municipalities and were referred by the Health Surveillance services to LACEN / RIO, while in turn sent to FIOCRUZ. Liver tissue samples were extracted in ambient and safety NB3 by Flavivirus laboratory. Negative samples were tested for herpesvirus detection by the Pan-PCR technique, which amplifies the conserved region of the polymerase (DPOL) and allows the simultaneous detection of viruses of the family *Herpesviridae*. To confirm the presence of *Human alphaherpesvirus* 1, PCR was performed based on the amplification of the conserved region of glycoprotein G virus and construction of the phylogenetic tree through the PCR region UL 23.

Results: From the total of primates negative for yellow fever 283 samples were tested with a prevalence of 34.6% (98/283) for herpesvirus, *Callitrichine gamaherpesvirus* 3 (CalHV-3) was detected in 30.22% (81/283), Epstein-Barr homologous virus in human. CalHV-3 can cause lymphoproliferative disease presenting B-cell lymphomas and can be fatal. In 83 individuals the prevalence of *Human alfaherpesvirus* 1 was 29.3% (83/283), a human virus lethal to the monkeys of the New World and no sample showed mutation of resistance to acyclovir. In addition, CalHV-1 / HHV-1 co-infection was observed in 11.6% (33/283).

Conclusion: The results of this work contributed to surveillance and data can be used to raise public awareness of management and close contact with non-human primates in public spaces and forests. There were no limitations to elaborate the project, since all inputs are part of the routine laboratory practice.

Keywords: Herpesvirus; Primates non-human; yellow fever