RESUMO - VETERINÁRIA

RABIES IN CAPTIVE MANED WOLF (CHRYSOCYON BRACHYURUS) ASSOCIATED WITH BITE INCIDENT INVOLVING ZOOKEEPER

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Rabies is a fatal encephalomyelitis caused by negative-strand RNA virus that belongs to the Lyssavirus genus of the Rhabdoviridae family. Although primary reservoirs consist of members among the orders Carnivora and Chiroptera, all mammals are presumed to be susceptible to the disease. Since humans and animals are highly vulnerable to rabies virus (RABV), the infection causes a

significant socioeconomic and ecological impact. Reports of rabies in maned wolf are quite rare. In Brazil, the first rabies cases described in this species happened in three maned wolves living in a Brasilia's zoo in 1967. Unfortunately, at that time, it was not usual to determine antigenic patterns for its RABV variant. In 2015 and 2016, two rabies cases were reported in free-ranging maned wolves from Pontal-SP and Cajuru-SP cities, respectively. In the first case, the virus was genetically characterized as the lineage circulating in Desmodus rotundus, and in the second case, RABV was typified as the genetic lineage circulating in the insectivorous bat Nyctinomops laticaudatus. The present report describes a rabid maned wolf at an urban Zoo of Catanduva city, Sao Paulo, Brazil. On August 1st, 2020, a female maned wolf showed early signs of neurologic complications such as dropped head, unstable gait, incoordination, and flaccid paralysis. On August 5th, 2020, the clinical manifestations progressed to lateral recumbency, seizure, and change of behavior since the animal bit down the zookeeper's hand. Promptly after this incident, the victim received an appropriate rabies post-exposure prophylaxis (PEP). On August 7th, 2020, the animal was subjected to a cerebrospinal fluid collection, and regrettably, died after the procedure. The animal was frozen and the necropsy was performed four days later. The nervous tissues were collected and submitted to rabies diagnosis. The brain sample from the maned wolf was tested positive for rabies by the gold standard diagnosis technique, the direct fluorescent antibody test. Thereafter, it was also confirmed by rabies tissue culture infection test, RT-qPCR LN34 Pan- Lyssavirus assay, and RT-PCR using specific primers for the N gene. The phylogenetic analysis was compatible with the Eptesicus furinalis RABV genetic lineage, an insectivorous bat. Furthermore, this case report is the first record of using the RT-qPCR LN34 Pan-Lyssavirus assay to detect the RABV genetic lineage from the Brazilian insectivorous bat. In conclusion, data indicate that maned wolf is not a reservoir and does not have a role in the transmission nor maintenance of RABV. The detection of rabies in this animal indicates an exceptional spillover or dead-end host of a RABV infection from an insectivorous bat reservoir. It is very likely that maned wolf may have been accidentally infected because it ate the bat or the bat bit it. This report confirms the need to have a fast and accurate rabies diagnosis in order to make decisions regarding human PEP. In addition, the knowledge of the RABV variant or genetic lineage has critical implication for effective implementation of rabies control strategies.

Financial Support: FAPESP 19/02637-2