

TITLE: DETECTION BY ONE STEP RT-PCR OF THE CHIKUNGUNYA VIRUS IN SERUM SAMPLES OF PATIENTS ATTENDED IN PUBLIC HEALTH SERVICES OF THE STATE OF MARANHÃO, BRAZIL.

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ABSTRACT:

The fever caused by the virus chikungunya (CHIKV) is an emerging disease in Brazil. The virus is transmitted to humans through the bite, of an infected female of arthropod vectors, such as the mosquitoes of the *Aedes* genus, the main transmitters the *A. aegypti* and *A. albopictus*. In 2014, in the Oiapoque (PA) and in Feira de Santana (BA) were registered the first cases of autochthonous infection by CHIKV. Since then, outbreaks of fever chikungunya have occurred in all Brazilian states. Studies have shown that the occurrence of outbreaks of infection may increase significantly the rate of deaths by CHIKV. On this, the present study aims to optimize and evaluate a molecular method to diagnose acute infections caused by the CHIKV. Are being evaluated 200 samples of serums of patients who sought the health services during the first six days after the onset of clinical signs and symptoms suggestive of chikungunya fever. Samples are from patients from different municipalities in the state of Maranhão and which were collected during the period January 2016 to May 2017. All 200 serum samples were positive for infection by CHIKV by ELISA method (ie/ EUROIMMUN) when they were analyzed at the Central Laboratory of Public Health of the State of Maranhão (LACEN-MA). The extraction of viral genetic material is being done with a kit commercial and its amplification with specific primers designed especially for this study. A total of 95 (47.5%) of the samples were evaluated until the moment, being that 63 (66.3%) presented the specific fragment of 623 base pairs for CHIKV. The 32 samples that were negative for CHIKV were then assessed by PCR with primers specific for the dengue virus. An important fact was observed, because all these 32 samples were positive for dengue serotype 4. The correct diagnosis of

infections by CHIKV is important to enlarge the knowledge about the potential of virulence of this virus, as well as guide the epidemiological surveillance services in the identification of foci of infection and and the intensification of measures to combat the mosquito vector.

Keywords: Chikungunya (CHIKV). Molecular diagnosis. One step-RT-PCR

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