TITLE: SEROLOGICAL AND MOLECULAR EVIDENCE OF EARLY CHIKUNGUNYA INFECTION IN THE ALAGOAS STATE SINCE JUNE 2014.

AUTHORS: LUCAS, Y.W.T.; LIMA, A.C.E.; LEITE, M.L.B.F.F.; TORRES, T.M.S.; VASCONCELOS JÚNIOR, J.F.; LIMA, A.R.V.; TEIXEIRA, G.C.; ARAÚJO, T.P.G.; BORGES, A.A.

INSTITUTION: UNIVERSIDADE FEDERAL DE ALAGOAS – CAMPUS A.C. SIMÕES, MACEIÓ, AL (AVENIDA LOURIVAL MELO MOTA, S/N, CEP 57072-970, TABULEIRO DOS MARTINS, MACEIÓ – AL, BRAZIL)

ABSTRACT:

Chikungunya virus (CHIKV) is an arbovirus of the *Alphavirus* genus, *Togaviridae* family that causes human disease, which develop acute onset of fever, rash and moderate to severe arthropathy in most of cases. In the last two decades, CHIKV emerged around the world and the first autochthonous infections in Americas occurred in 2013. In Brazil, infections by CHIKV were confirmed in September 2014 at Oiapoque (Amapá state) and at Feira de Santana (Bahia state). Official records attest that first cases of CHIKV infection in the Alagoas state had begun in October 2015. We provide serological and molecular evidences of early community transmission of CHIKV in Alagoas at least since June 2014. From December 2013 through September 2014, during a large epidemic of dengue at Maceio city, we obtained sera samples from patients attended in a reference public hospital for molecular diagnostic of arboviruses. Of all samples, only 16 were collected out of 7 days post-onset symptoms, which were analyzed retrospectively to the presence of anti-CHIKV IgM and IgG by ELISA (Euroimmun®). One sample collected in June 2014 showed positivity for anti-CHIKV IgG (67.7 relative units / mL) and borderline levels for IgM, but attempting of viral isolation and molecular detection were ineffective. Otherwise, another sample collected in August 2014 presented anti-CHIKV IgM and CHIKV was successfully isolated in Vero E6 cells culture. The viral RNA was detected by RT-PCR from the supernatant of these cells. Sequencing analyzes are in progress. Beside, our data show that CHIKV was already circulating in the Alagoas state since 2014 and not only in 2015, therefore sooner than expected by specialists. Sequencing data will be necessary to confirm the early transmission of CHIKV in Alagoas.

Key words: Chikungunya, Alagoas state, early transmission

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