

POTENTIAL USE OF SALIVA SAMPLES FOR DIAGNOSIS OF ZIKA VIRUS INFECTION

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Zika virus (ZIKV) is a mosquito-borne flavivirus first isolated in Uganda, in 1947. Since then, sporadic cases of human ZIKV infections were reported in Africa and Asia, but the first ZIKV outbreaks occurred in the last decade, in the Pacific Ocean region. Late in 2014, large outbreaks of acute exanthematous illness (AEI) were reported from various Northeast states of Brazil, and, in April 2015, ZIKV was identified as the etiologic agent. ZIKV diagnosis is challenging, because serological methods is not specific as a consequence of IgM cross reactivity between Flaviviruses. Currently, molecular techniques, such as conventional or real time reverse transcriptase–polymerase-chain-reaction (qRT-PCR), are the most used methods to diagnosis ZIKV. ZIKV RNA is usually detected by RT-PCR in serum samples, but use of alternative samples has already been described. ZIKV RNA has been found in saliva in concomitance with either blood or urine. There are also a few studies describing viral RNA amplified only from saliva. The objective of this study was to investigate the potential use of saliva samples as an alternative for diagnosis of ZIKV infection. In June 2015, nine patients assisted in an emergency health unit of Salvador, Brazil due to an AEI suggestive of ZIKV had both saliva and serum samples collected after two to five days of symptoms onset. Samples were subjected to RNA extraction using the QIAamp Viral RNA Mini Kit (QIAGEN) and ZIKV qRT-PCR described by Lanciotti et al (2008) using the QuantiTect Probe RT-PCR Kit (QIAGEN). Zika RNA was detected in four of nine samples of saliva (Ct values <38.5). All serum samples were negative. Our findings coincide with that of prior studies and suggest that qRT-PCR performed in saliva samples may have greater sensitivity compared to serum. In addition, obtaining saliva is easier than serum, particularly in newborns or in remote places where medical facilities are lacking. Further studies with larger number of specimens are needed to confirm our findings, but given the current evidence we suggest that in situations where a blood sample cannot be collected, the use of saliva should be considered.