EVALUATION OF A RAPID ASSAY FOR DETECTION OF IgM ANTIBODIES TO CHIKUNGUNYA

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Abstract. Chikungunya (CHIK) is a re-emerging disease causing a large negative impact on global health and economics. Clinical manifestations of CHIK are non specific and difficult to differentiate from dengue hemorrhagic fever or other viral exanthema. A rapid, simple and reliable diagnostic assay is necessary for CHIK outbreak control especially in countries with insufficient access to well-equipped laboratories. The aim of the study is to evaluate a commercially rapid, qualitative CHIK diagnostic assay based on specific IgM antibody detection. Performance of the rapid assay was evaluated in comparison with semi-nested RT-PCR and IgM detection by ELISA. The sensitivity of the rapid assay was not constant but positively correlated with duration of symptoms. If the test was conducted within the first week, sensitivity and specificity was 22% and 88%, respectively. If the patients were tested after the first week, sensitivity was increased to 83% while specificity was decreased to 71%. Thus, the rapid assay should not be used as a screening tool during the first week of CHIK due to its low sensitivity.

Key words: sensitivity, specificity, chikungunya, rapid test, ELISA, RT-PCR

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