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ePoster Viewing

International health, tropical and travel-associated diseases, and parasitology

Rapid diagnosis of Dengue outbreaks in resource-limited facilities

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OBJECTIVES

Dengue is a re-emerging public health problem threatening the tropical developing world, which requires rapid diagnosis in the absence of licensed vaccines or anti-dengue therapy. Regions endemic for dengue and related viruses are often overwhelmed by the sudden surge of cases during outbreaks. It is difficult to justify diagnosis of every dengue case using WHO criteria or differentiate it from other concurrent viral illnesses. The study evaluated a rapid, sensitive and specific diagnostic methodology suitable for dengue outbreaks in resource limited facilities.

METHODS

100 dengue patients as per WHO Case Definition Criteria for Dengue Fever 2006 as well as 100 healthy controls from New Delhi, India were included. All samples were tested by lateral flow immunochromatography (LF-ICT), ELISA and Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) and results were compared. Diagnostic accuracy indices and Kappa analysis were worked out.

RESULTS

The sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV) of NS1 against RT-PCR was 98.31%, 100%, 100%, 99.3% and strength of agreement was perfect. The sensitivity, specificity, PPV, NPV of IgG against IgM was 44.19%, 100%, 100%, 86.74% and strength of agreement was moderate.

CONCLUSION

Antigen based and molecular tests are a better tool for early diagnosis of dengue. The combined LF-ICT kits are highly sensitive, specific, user-friendly, compact, frugal and thus recommended for use in dengue outbreaks, field conditions and as bed side diagnostic tests. Further studies are required to further assess their utility in prognosis, surveillance and establishment of guidelines for dengue outbreaks.