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VIROLOGIA

PERFORMANCE OF RAPID TESTS IN THE MANAGEMENT OF DENGUE FEVER IMPORTED CASES: RETROSPECTIVE ANALYSIS FROM A REGIONAL REFERENCE LABORATORY IN LAZIO, ITALY 2014-2019

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INTRODUZIONE

Early diagnosis of dengue fever (DF) is important to differentiate febrile infections with similar symptoms and for appropriate patient management. Rapid diagnostic tests (RDTs) may represent an effective tool to guide and shorten medical treatment decisions, but the performance of these assays may vary according to different epidemiological and laboratory background.

METODI

We reviewed five years of laboratory records of two dengue RDTs (Colorimetric SD Bioline Dengue Duo RDT and Fluorimetric SD Biosensor STANDARD F Dengue RDT), able to detect viral NS1 antigen and specific anti-dengue IgM and IgG, to retrospectively establish their performance. Diagnostic parameters were calculated using as reference the results of molecular (RT-PCR) and serological (immunofluorescence, IFA) confirmatory tests. Overall performance, calculated considering the final case definition, was also included in the accuracy assessment of RDTs.

RISULTATI

Based on case definition, sensitivity and specificity were 87.2% and 98.8% for Colorimetric RDT, 96.2% and 96.2% for Fluorimetric RDT, and IgM detection by either RDTs was highly concordant with IFA results. In 24 cases of non-dengue arboviroses (i.e. Zika, yellow fever and chikungunya virus) NS1 and IgG RDT showed high specificity, while IgM resulted positive in samples from two Zika patients.

CONCLUSIONI

RDTs are of undeniable help in the prompt management of dengue infection in non-endemic areas, but confirmatory tests are still necessary to rule in or rule out dengue fever diagnosis.