

# USE OF DENGUE NS1 ANTIGEN FOR EARLY DIAGNOSIS OF DENGUE VIRUS INFECTION

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**Abstract.** Accurate and timely diagnosis of dengue virus is important for early detection of dengue virus infection. In this study, the usefulness of the dengue NS1 antigen test was evaluated as a routine, rapid diagnostic test for dengue virus infection. A total of 208 sera from patients suspected of having dengue virus infection were collected and tested for dengue antibody, dengue genome and dengue NS1 antigen. Dengue antibody test, dengue PCR test and dengue antigen test were able to detect dengue virus infection from Days 1 to 8 in 72.8, 52.8 and 44.0% of samples, respectively. Of the 208 sera tested, 69.2% (144/208) of the acute sera were positive for dengue virus infection based on IgM antibody, IgG antibody, NS1 antigen and PCR tests. Thirty-two point two percent of the samples (67/208) were found positive for dengue NS1 antigen, 38.5% (80/208) were PCR positive, 40.9% (85/208) were IgM positive and 36.1% (75/208) were IgG positive for dengue virus. The results reveal the detection rate of dengue virus infection was similar for PCR and dengue antibody (65.9%) and for NS1 antigen and dengue antibody (62.0%) combinations. Therefore, the dengue NS1 antigen test can be used to complement the current antibody test used in peripheral laboratories. Thus, the combination of the NS1 antigen and antibody tests could increase the diagnostic efficiency for early diagnosis of dengue infection.

**Keywords:** dengue virus, NS1 antigen, rapid diagnostic test

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