

DETECTION OF DENGUE INFECTION BY COMBINING THE USE OF AN NS1 ANTIGEN BASED ASSAY WITH ANTIBODY DETECTION

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Abstract. We analyzed the utility of a commercial NS1 antigen based ELISA (Panbio Dengue Early ELISA) for detection of dengue infection during the early acute phase and anti-Dengue IgM capture ELISA for detecting dengue infection in patients in dengue endemic settings. A total of 145 serum samples collected from febrile suspected dengue patients were tested for the presence of anti-dengue IgM antibody using IgM antibody Capture ELISA (MAC ELISA) and the presence of dengue virus antigen using PanBio Dengue NS1 Antigen Capture ELISA. Of the 145 patient samples tested, 88 (60.7%) were positive for either NS1 antigen or IgM antibody by MAC ELISA. Dengue NS1 antigen-capture ELISA gave an overall positivity rate of 65.9% (58/88), and IgM ELISA gave an overall positivity rate of 60.2% (53/88). Only NS1 antigen can be used to test during the first two days of fever. MAC ELISA begins to show positive by the third day of illness and gradually its positivity increases. From Day 3 to Day 7, no significant difference in detection rates was seen between the NS1 assay and MAC ELISA. The NS1 antigen assay may be a useful tool for detecting dengue infection during first few days of fever.

Keywords: dengue, NS1 antigen, ELISA, IgM

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