

A comprehensive profile for the diagnosis of Dengue in an emergency setting

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Over the past few years Dengue Virus infection outbreaks have been quite frequent in India, the most recent one being in the last quarter of 2015. Dengue virus infections can result in a range of clinical manifestations from asymptomatic infection to dengue fever (DF) and the severe disease dengue hemorrhagic fever/dengue shock syndrome (DHF/DSS). Most dengue infections are asymptomatic or cause mild symptoms, which are characterized by undifferentiated fever with or without rash. From our experience we felt that there was a need for rapid, specific, inexpensive dengue diagnostic tests that can be used for clinical management, surveillance and outbreak investigations and would permit early intervention to treat patients and prevent or control epidemics. The use of a rapid Dengue Duo of SD Bioline has been useful but many a times low antigen/antibody levels has lead to false negative results and serological cross-reactivity in some cases has lead to false positive results. To avoid these issues we felt that using a Complete Blood Count (CBC) and Alanine Amino Transferase (ALT) in conjunction with the Dengue Duo almost settled the issue of diagnosis. In past outbreaks it had been observed that low platelet counts along with mild elevations in ALT levels were quite common. The CBC also helped in revealing hemoconcentration commonly come across in Dengue infections. Usually in an emergency setting the clinical status of a patient in Dengue outbreaks is unknown. During the last Dengue outbreak in the last quarter of 2015 we could clearly diagnose 62 patients as Dengue positive in our emergency setting. Of these 8 were seronegative on the Duo test but had low platelets and mildly elevated ALT levels which clinched the issue. We strongly recommend using CBC (preferably on two cell counters), ALT tests along with the Dengue Duo to increase the diagnostic efficiency in an emergency setting to reveal the status of the patient. All these tests can be performed in less than an hour.