Prevalence of NS-1 Status of Clinically Suspected Dengue Patients in a Selected Out-Patient Setting

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Dengue infection is one of the rapidly emerging arboviral infections in the world. It is a cause of significant morbidity and mortality especially in developing countries. Although most dengue infections are asymptomatic, dengue fever can be manifested with or without complications. Early diagnosis of dengue is important both clinicians and the patients, where appropriate management of dengue patients reduces both morbidity and mortality. Traditionally dengue infection is clinically suspected with full blood count aided by clinical features although dengue infection cannot be confirmed by either of these methods. Confirmatory tests for detection of the dengue virus are by virus isolation or by nucleic acid detection. which are not suitable for routine diagnosis. NS-1 rapid antigen test has become available for early detection of dengue NS1 antigen, which can be performed at the point of care.

Estimate the prevalence of NS1 positivity in dengue suspected patients with acute febrile illness in a selected study setting

Blood samples from clinically suspected patients within the first five days of fever were sent for NS1 diagnosis to the molecular laboratory in the department of Biochemistry Faculty of Medicine Ragama. Clinical diagnosis was made by a medical officer. Serum was used for the NS1 diagnosis using Inbios Diagnostic kit (USA).

22.2% of samples were tested positive for NS-1 antigen in a total of 54 samples collected. There were 53.7% males. 9.2% patients were below 10 years of age, 37% patients between 11-20 years of age, 20.3% patients between 21-30 years and 31.4% patients above 31 years of age. 30 % of patients between 11-20 years were NS-1 positive. 36.3 % of patients between 21-30 years of age and 11.7% patients above 31 years of age were also NS-1 positive.

NS-1 antigen prevalence was highest among patients between the ages of 11-30 years. Initial clinical assessment of dengue infections is of low specificity as the disease manifests as an undifferentiated febrile illness. Therefore, the inclusion of an antigen test will improve the specificity of diagnosis in a similar out-patient setting which will enable clinicians to make decisions on the further management of the condition.

Keywords: Dengue, NS-1 antigen, prevalence, specificity, clinical diagnosis

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