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Detection of Dengue Virus in Acutely Febrile Children in Kenya

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ABSTRACT

The burden of dengue virus in Kenya is unknown, and is likely grossly underestimated due to febrile illnesses, often being presumptively treated as malaria, which is endemic. Additionally, Dengue fever can be fatal if left improperly treated especially in children who have lesser-developed immune systems.

The objective of this ongoing study is to determine the incidence of dengue fever as the etiology of fever in febrile children in Western Kenya.

In this ongoing study, children ages ≤ 17 presenting with febrile illness to our recruitment sites, had serum samples drawn for testing. For the purposes of the current study, RNA extracted from a subset of these samples (n=19) was reverse transcribed into cDNA and then tested for the presence of dengue virus by PCR followed by agarose gel electrophoresis. For positive samples, use of a sequential PCR reaction with dengue serotype-specific primer sets then enabled determination of the viral serotypes circulating in this population.

Our preliminary data confirms the presence of dengue virus as a possible etiology of fever in children in Kenya with 2 out of the original 19 patient samples testing positive for DENV. Therefore, the data from the samples reports a Dengue infection rate of 10.5%. This preliminary data from our ongoing study at this time is too small to accurately determine the incidence of acute DENV infections in children with fever in Kenya; however, identification of DENV in the serum of acutely febrile children suggests that DENV is likely an important cause of fevers in Kenyan children.

Keywords: Dengue Fever, Low Immune System, Febrile Illness

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