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ABSTRACT

Host Factors In The Pathogenesis Of Dengue Infection In Trinidad

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Dengue fever, the most important arboviral infection in the world, affects an estimated 100 million persons per annum. In addition to substantial morbidity caused by the virus, there are over 25,000 deaths each year from the severe form of the disease known as Dengue Haemorrhagic Fever/ Dengue Shock Syndrome. While dengue infection has been documented in the Caribbean basin for over 200 hundred years, it is only in recent years that there have been epidemics of DHF/DSS with an ever increasing number of deaths. Moreover, there is evidence to suggest that the disease is becoming endemic. There are no cures or vaccines currently available to stem the increased morbidity and mortality associated with DHF/DSS. Early identification of DHF/DSS and aggressive management is required to reduce mortality.

In this thesis, the demographic and clinical features of a large cohort of affected persons in Trinidad are described. Preliminary data on serum neopterin concentrations in patients with mild and severe forms of dengue are presented. These suggest that neopterin, a marker of cell mediated immunity, remains elevated in severe infection but decreases 5-7 days after the onset of symptoms in mild infection. The possible role of T-cell receptor families in the pathogenesis of dengue is also explored.

Keywords: Kevin Marcus Babb; dengue; dengue haemorrhagic fever; dengue shock syndrome; neopterin.