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A preliminary study of early clinical and laboratory indicators of acute dengue illness

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Dengue is a major public health challenge worldwide. Early identification of dengue is important to reduce the morbidity and mortality. This study aims to determine early clinical and laboratory indicators of acute dengue illness. A prospective observational study was conducted to identify early indicators of acute dengue infection in four medical wards at the National Hospital of Sri Lanka. The study was conducted from 15th October 2017 to 15th June 2018. Ethics approval for the study was obtained from the Ethics Review Committee, Faculty of Medicine, University of Colombo (EC-17-080).Patients with clinically suspected dengue presented within four days were included for the study. Patients with clinical or laboratory evidence of co-infection were excluded. Patients were followed until discharged from hospital. The Dengue NS 1 antigen test was used to confirm dengue infection at three or four days after onset of fever. STATA version 13.1 was used to analyze data. Proportional data were tested between dengue and other febrile illness patients using chi-squared test or Fisher's exact test. Continuous data were tested using the t-test between dengue and other febrile illness patients when data shows a normal distribution; otherwise the Mann-Whitney rank sum test was used. A majority of patients were males (65.8%). The mean age was 33 years. Out of 155 patients, 70 patients had dengue while 85 patients had other febrile illnesses. On admission, dengue patients reported headache more commonly than other febrile illnesses. There were no significant associations of other clinical symptoms with dengue infection. Dengue patients had low WBC, low absolute neutrophil count, low absolute lymphocyte count and low platelet count when compared to other febrile illness patients. AST and ALT levels of dengue patients were higher than other patients. This study concludes that differentiating dengue from other acute febrile illnesses is difficult due to lack of specific clinical features. However leucopaenia, thrombocytopaenia and high transaminases suggest dengue fever over other febrile illnesses.

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