Abstract

Introduction: Dengue is the most important mosquito-borne infection in the world. There is evidence supporting the use of biochemical alterations as prediction tools for severity of illness in dengue. Objective: To evaluate biochemical alterations as potential prediction markers for severity in dengue. Materials and methods: This was a case-control study nested in a cohort. We randomly selected 125 severe dengue cases and 120 controls with non-severe dengue for measuring LDH, CK, CRP and albumin serum levels using acute phase sera. To evaluate the predictive value for each biomarker, we established cut-off points with 90% sensitivity in detecting severe cases. Results: There was association among the CRP levels < 9.8 mg/L (OR=0.04; 95%CI=0.02-0.08; p=0.000), <400 U/L LDH levels (OR=0.49; 95%CI=0.24-1.02; p=0.053) and <4 mg/dl albumin levels (OR=3.46; 95%CI=1.96-6.12; p=0.000) with the severity of dengue. In contrast, the CK levels showed no association with the severity of the disease. Conclusions: Our findings suggest an association of CRP, LDH and albumin levels with the severity of dengue. These biochemical tests could be used as predictive tools in the clinical course of the infection.

Keywords

Dengue, severity of illness index, biological markers, forecasting, biochemistry, humans.