

Bacteriology and Infectious Diseases

May 25-26, 2017 Chicago, USA

Early clinical and biochemical predictors of bleeding and complications in dengue hemorrhagic fever in children

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Background: Dengue is a major health concern in India. Marked increase in childhood dengue hemorrhagic fever (DHF) has stipulated the need for early predictive markers of severe dengue. To obviate the lacunae in literature, a study was designed to correlate symptoms at presentation and laboratory parameters with complications of DHF. The study also intended to determine association between deranged hematological profile and bleeding manifestation in these patients.

Methods: Children (1-12 years) with DHF were enrolled (2014-2015) for this study. Clinical presentation and biochemical parameters (platelet aggregation, platelet count, liver function test (LFT), activated partial thromboplastin time (APTT), prothrombin time (PT) plasma fibrinogen) were studied. Correlation of symptoms at presentation and deranged hematological profile with complications were analyzed.

Results: A significant association between bleeding and presence of rashes (p value 0.005), restlessness (p value-0.004), deranged APTT (p value 0.007) and decrease in plasma fibrinogen (p value-0.032) at presentation was prevailed. No relevant association between altered platelet aggregation and bleeding (p value-0.651) was inferred in our study. Headache (p value-0.011) and tourniquet test positivity (p value 0.023) were found to be associated significantly with shock. The study also deduced the correlation of bleeding (p value-0.003), restlessness (p value-0.047), decrease in plasma fibrinogen (p value 0.007) and platelet count (p value-0.005) with duration of stay and complications.

Conclusions: A child with rash, restlessness and headache at presentation identifies a high risk group in dengue patients. Patients with alteration of plasma fibrinogen, APTT and tourniquet test positivity should always be monitored for development of complication like shock and bleeding. Defect in platelet functions cannot be attributed as an independent risk for bleeding in DHF.

Biography

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