

Hypocalcemic Tetany: An Infrequently Recognized Association with Acute Dengue Infection

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Sir,

Hypocalcemic tetany is an infrequently reported complication of dengue infection. Two children aged 10 and 12, presented with 7 d history of fever and bleeding spots over body. Children were febrile with widespread petechiae. There was no pallor, icterus, lymphadenopathy and systemic examination was within normal limits. Subsequent to the admission, both developed neck and carpo-pedal spasm without alteration in sensorium. Clinical diagnosis of hypocalcemic tetany was made. Serum samples for calcium and routine investigations were taken. ECG was suggestive of prolongation of QTc interval. Ionised Calcium (2.1 mg/dl and 1.9 respectively) and total calcium (8.4 mg/dl and 8.6 respectively) were low and phosphate (4.2 mg/dl and 3.6 mg/dl), PTH (48 pg/ml and 48.6 pg/ml), serum albumin (3.6 mg/dl and 5.4 mg/dl) and blood pH (7.38, not done in the next case) were normal. There was no evidence of multiple organ dysfunction with renal parameters being normal in both children. They responded to IV 10% calcium gluconate. Hematological evaluation revealed thrombocytopenia. Rapid diagnostic tests for malaria and enteric fever were negative. NS1 antigen test being positive, suggested the diagnosis of dengue and the children were managed with supportive treatment and discharged.

Dengue fever is a disease of varied manifestations from simple febrile illness to shock. Hypocalcemia is an infrequently recognized complication of dengue fever. Jirapinyo

et al. [1], reported protracted hypocalcemia in a complicated dengue patient. A follow up study was done by Uddin et al. [2], to assess biochemical parameters in dengue patients. They reported 84 cases during a one year period, of which a significant number of patients (exact figures not mentioned) in this series had hypocalcemia, and some of them were symptomatic. Hypocalcemia was correlated with conventional severity parameter *i.e.*, mean calcium level which was lowest in patients with Dengue Hemorrhagic fever III. Analyses of Calcium binding to albumin in the serum of surgical ICU patients and normal subjects suggested that there is a circulating factor in critically ill patients that increases the binding of Ca to albumin. These observations may explain why the McLean-Hastings nomogram used for evaluation of symptomatic hypocalcemia underestimates the protein-induced changes in serum Calcium in critically ill surgical subjects and increases the risk of symptomatic hypocalcemia [3]. In both our cases the total calcium measurements were normal for the laboratory reference values. Here we highlight a treatable metabolic complication of dengue fever. Measuring ionized rather than the total calcium is likely to be more helpful in this situation.

References

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