

## Fulminant Hepatic Failure in Primary Dengue Infection

Fulminant hepatic failure is a rare manifestation of dengue hemorrhagic fever. We describe fulminant hepatic failure in two infants due to primary dengue infection. Both the infants recovered completely with supportive measures.

A 9-month-old child presented with four days fever and altered sensorium for 2 days. He developed seizures in the emergency department and was in a state of shock. His blood sugar was 9 mg/dL. He was resuscitated with intravenous fluids. The child had fever, altered sensorium and erythematous skin. His liver was palpable 4 cm below right costal margin and spleen was just palpable. The limbs were spastic and deep tender reflexes were brisk. His initial blood count showed a total count of  $23.1 \times 10^3/\mu\text{L}$ , hematocrit of 33%, platelet count of 22,000/ $\mu\text{L}$ . His liver function test were SGPT of 5907 U/L, SGOT of 20,480 U/L and serum bilirubin of 2.7 mg/dL. His prothrombin time was prolonged (68s). Serology for hepatitis A, C and E, and HBs Ag were negative. Imaging showed right sided pleural effusion and moderate ascites. Dengue IgM antibodies were positive and dengue IgG was negative, suggestive of primary dengue infection. He developed progressive jaundice with the maximum bilirubin level of 22.9 mg/dL, which resolved completely 8 weeks after onset.

A 1-year-old boy presented with fever and rash for 4 days. On examination, he was sick looking, febrile, irritable and had cold extremities. He had right pleural effusion and ascites. His liver was palpable 4 cm below costal margin. Investigations on admission showed a total count of  $6.4 \times 10^3/\mu\text{L}$ , hemoglobin of 6.8 g/dL and platelet count of 11,000/ $\mu\text{L}$ . His liver function test was grossly deranged with SGPT level of 3713 U/L, SGOT of 1401 U/L, serum bilirubin of 2 mg/dL and prothrombin time of 22 s. Imaging revealed pleural effusion, and moderate

ascites. His anti HAV IgM, anti HCV, anti HEV and HBs Ag were negative. Dengue IgM was positive and Dengue IgG was negative, suggestive of primary dengue infection. Both infants were treated with intravenous fluids, fresh frozen plasma, platelet concentrate and ceftriaxone.

Liver failure has been associated with dengue hemorrhagic fever particularly during epidemics in Indonesia and Thailand(1). Acute liver failure has also been reported in adults with primary dengue fever(2,3). Fulminant hepatitis in dengue infection has a very high mortality(4). Dengue is a major cause of acute hepatic failure in Thailand(5). The important differential diagnosis in cases presenting with fever and acute hepatic failure includes acute viral hepatitis and Reye syndrome. In dengue endemic regions, dengue fever should also be considered as one of the differential diagnosis in children presenting with fever and fulminant hepatic failure.

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### REFERENCES

1. Dengue Haemorrhagic Fever. Diagnosis, Treatment, Prevention and Control. 2<sup>nd</sup> edn. Geneva: World Health Organization; 1997.
2. Vinodh BN, Bammigatti C, Kumar A, Mittal V. Dengue fever with acute liver failure. *J Postgrad Med* 2005; 51: 322-323.
3. Ling LM, Wilder-Smith A, Leo YS. Fulminant hepatitis in dengue hemorrhagic fever. *J Clin Virol* 2007; 38: 265-268.
4. Shah I. Dengue and liver disease. *Scand J Infect Dis* 2008; 40: 993-994.
5. Poovorawan Y, Hutagalung Y, Chongsrisawat V, Boudville I, Bock HL. Dengue virus infection: A major cause of acute hepatic failure in Thai children. *Ann Trop Paediatr* 2006; 26: 17-23.