

CASE REPORT

TYPHOID DENGUE COINFECTION: 2 CASE REPORTS

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Abstract:

Dengue and typhoid fever are different entities with overlapping signs and symptoms. The resemblance of symptoms makes clinical diagnosis and treatment difficult. Both are major health problems mainly during monsoon. If they are not diagnosed timely and treated, outcome can be fatal. We report 2 cases of dengue virus co-infection with typhoid fever during this outbreak of dengue. The aim of this report was to create awareness about this co-infection.

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Introduction:

Dengue fever is a viral exanthematous febrile illness. It is transmitted to humans by the insect *Aedes Aegypti*.¹ Similarly typhoid infection is also an important leading cause of morbidity and mortality worldwide.² Like many developing countries, Bangladesh is also endemic to malaria and enteric fever. In Bangladesh, dengue malaria co-infection is relevant, but the same is not true for dengue-Salmonella co-infection.³ Viral illnesses can be complicated by secondary bacterial infections and the dengue virus is no exception.⁴ Here, we report two cases; both were treated in hospital.

Case 1:

A 14-year-old young lady presented with the complaints of high-grade fever for 5 days and loose stool. On examination, she was mildly dehydrated and just palpable spleen was present. Blood for culture and sensitivity report showed *Salmonella typhi*. Ceftriaxone was started with appropriate dose. 3 days later she became afebrile. But again after 2 days, she developed high grade fever, vomiting, anorexia and loose stool. She presented to us on the 3rd day of second episodes of fever. At presentation, she was febrile (102 degrees F) and tachycardic (pulse rate 100/min). Her blood pressure was 120/80 mmHg

with a respiratory rate (RR) of 16/min. Her abdomen was soft but tender on deep palpation. There was no clinical evidence of organomegaly or ascites. The rest of the physical examination was unremarkable. Her labs revealed a recent sudden drop in leukocyte ($3.1 \times 10^9/L$). NS1 was positive. And her platelet count showed progressive thrombocytopenia, SGOT was 209u/l. After hospital admission, her blood pressure was low 90/60, there was mild pleural effusion and ascites. Her lowest platelet level was 25k/ μ l. She was treated with proper fluid therapy along with antibiotic Ceftriaxone for 14 days. Patient improved completely and discharged from the hospital.

Case 2:

23-year-old man presented to us with the complaints of fever for 8 days which was associated with headache and vomiting, highest recorded temp was 104^oF. After admission, one day later he developed breathlessness and subsequently upper abdominal pain. His SO_2 level dropped below 86% in room air. On Examination, his temperature was 101, pulse showed tachycardia, BP was low, Abdomen showed epigastric tenderness, chest examination showed wide spread crepitation. Chest Xray done immediately and showed bilateral interstitial pneumonitis. Injectable antibiotic started immediately and 2 days later he became stable and

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shifted from ICU. Other Investigation showed leucopenia with thrombocytopenia. Dengue Ig M was positive. SGOT was 692U/L, lipase was 1175U/L, CRP was 324, Procalcitonin was 8.00ng/ml, S. bilirubin was 3.8, Albumin was 2.65mg/dl, HBsAg and Anti HCV was negative. USG of whole abdomen revealed mild ascites. Blood culture showed salmonella typhi. He was treated with Inj ceftriaxone along with judicious fluid management. 5 days later he was discharged from hospital.

Discussion:

Though dengue fever was first recognized in early 1780s.⁵ The incidence of both dengue and typhoid fever peaks during the monsoon season. Early clinical signs of both the diseases are non-specific and similar. It is important to distinguish typhoid fever from dengue as early antibiotic therapy in the former leads to a favorable outcome, while dengue as such has no specific treatment and is treated symptomatically. Lee et al. also observed concurrent bacteremia in a patient with dengue fever who had a fever prolonged for more than 5 days and suggested a predominance of microflora in this case.⁶ A possible interaction between dengue and typhoid may arise through intestinal endothelial damage or intestinal hemorrhage, or through immunosuppression superimposed by virtue of the initial virus illness.^{7,8} Both patients presented with a sudden onset of high fever, myalgia and gastrointestinal disturbances including nausea, abdominal pain and loss of appetite. According to WHO guidelines, the acute febrile phase of dengue usually lasts 2–7 days.⁹ In both cases, Dengue was graded as group B. Clinicians should be alert to a progressive leucopenia in the early phase of dengue fever. In both cases fever persisted in the second week of illness. There was, thus, a possibility of some concurrent infection. Owing to a high prevalence of both dengue and typhoid in Bangladesh, a high degree of suspicion for the latter must be maintained.

Conclusion:

Change in the pattern of fever in the setting of a dengue outbreak should raise the suspicion of coinfection with dengue virus. Prompt diagnosis, early recognition of plasma leakage and appropriate management of DHF can reduce morbidity and mortality.

Conflict of Interest:

The authors stated that there is no conflict of interest in this study.

Funding:

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Ethical consideration:

The study was conducted after approval from the ethical review committee of Popular Medical College Hospital, Dhaka, Bangladesh. The confidentiality and anonymity of the study participant was maintained.

Consent:

For the purpose of publishing this case report and any related photos, the parents are written informed consent was acquired.

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