

Abstract

Dengue fever, a mosquito-borne viral infection, is a significant public health concern in tropical and subtropical regions. While dengue fever typically presents with mild to moderate symptoms, severe cases can occur, especially when complicated with secondary hemophagocytic lymphohistiocytosis (HLH). Secondary HLH is a rare and life-threatening condition characterized by an aberrant immune response. This case report aims to provide an overview of dengue fever complicated with secondary HLH, focusing on the clinical features, diagnostic challenges, and management strategies.

Case Presentation

We present a case of a 15-year-old previously healthy school-going girl from Beruwela, a coastal part of Sri Lanka, who initially presented with symptoms of fever, headache, arthralgia, and myalgia lasting for five days. She was managed for dengue hemorrhagic fever and later transferred to our facility on day 10 of fever due to persistent high spike fever. Upon admission, the patient complained of fever, generalized body swelling, and reduced appetite. Physical examination revealed a pale, febrile patient with bilateral pleural effusion, massive hepatomegaly, mild splenomegaly, moderate ascites, and bilateral peripheral pitting ankle edema. Laboratory investigations showed pancytopenia, leukopenia (WBC 2820/mm³), anemia (Hb 9.8 g/dL), and thrombocytopenia (99000/mm³). Liver enzymes were significantly elevated, with AST levels at 1288 IU/L and ALT levels at 588 IU/L. Serum ferritin was greater than 40,000, serum triglycerides were 459 mg/dL, and plasma fibrinogen levels were 0.7, all outside the reference ranges. The patient tested positive only for Dengue IgM, while other infectious causes were ruled out. A bone marrow aspiration revealed a normocellular marrow with increased macrophage and histiocytic activity, supports the diagnosis of hemophagocytic lymphohistiocytosis (HLH). Intravenous dexamethasone was initiated, resulting in defervescence within 24 hours. The patient was discharged with near-normal biochemical parameters

and advised to continue an oral dexamethasone tapering regimen at home. This case highlights the importance of considering secondary HLH in patients with persistent fever and multi-organ involvement, even in the context of dengue fever. Early recognition and prompt treatment are crucial for improving outcomes in these patients.

Conclusion

The case highlights the importance of considering secondary HLH in patients with persistent fever and multi-organ involvement, even in the context of dengue fever. Early recognition and prompt initiation of appropriate therapy are crucial for improving outcomes in this challenging case.
