

Dengue presented with pancytopenia — call for physicians to think in different perspective

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Madam, being endemic in over one hundred twenty-two countries, at least four billion people are at risk of being infected by the dengue virus (DENV). Dengue fever is caused by the bite of infected arthropods: mosquitoes and ticks.¹ It has four variants (DENV 1-4), and the infection is often presented with acute symptoms like fever, myalgia, arthralgia, eye pain, headache, rash, thrombocytopenia, and leukopenia. In literature, it has been mentioned that only five percentages of cases manifested with severe illness that was characterized by plasma leakage that leads to effusion, respiratory distress, shock, and haemorrhage.² Infection with DENV may also lead to a sequel of uncontrolled inflammatory responses and results in the development of haemophagocytic lymphohistiocytosis (HLH). Assertion with dengue was first documented in a 10-month-old patient in Puerto Rico in 2010.² Hyperinflammatory conditions cause HLH due to over activated immune response. Primary haemophagocytic lymphohistiocytosis (HLH) is a familial disorder while secondary HLH is commonly associated with numerous infections, malignancy, and autoimmune diseases.³ The diagnosis of HLH is mostly based on clinical and laboratory findings. The clinical features of HLH are prolonged fever and organomegaly; laboratory investigations shows high level of ferritin, triglycerides, low level of fibrinogen and bone marrow shows haemophagocytes.³

Jha VK ET all presented a case of DENV with symptoms of persistent fever, pancytopenia, and multi-organ failure secondary to HLH, and early treatment with corticosteroid had shown promising results.⁴

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Complicated DENV has an atypical presentation with pancytopenia associated HLH which is challenging for a physician to look into this rare presentation. If prompt treatment is started such cases of complicated DENV can be saved. It is high time for physicians to think of different approaches when they are dealing with patients with unusual presentation of dengue with anti-dengue antibodies or non-structural protein 1(NS1) antigen positive. An immediate approach to such cases can save patients' life. Along with treatment of such cases we also should focus on vector control that will be beneficial to break the cycle of DENV and related complication.⁵

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References

1. Raafat N, Blacksell SD, Maude RJ. A review of dengue diagnostics and implications for surveillance and control. *Trans R Soc Trop Med Hyg.* 2019; 113:653-60.
2. Ellis EM, Sharp TM, Pérez-Padilla J, González L, Poole-Smith BK, Lebo E, et al. Incidence and Risk Factors for Developing Dengue-Associated Hemophagocytic Lymphohistiocytosis in Puerto Rico, 2008 - 2013. *PLoS Negl Trop Dis.* 2016; 10:e0004939.
3. Lakhota M, Pahadiya HR, Gandhi R, Prajapati GR, Choudhary A. Stuck with pancytopenia in dengue fever: Evoke for hemophagocytic syndrome. *Indian J Crit Care Med.* 2016; 20:55-6.
4. Jha VK, Khurana H, Balakrishnan A. Prolonged fever and pancytopenia in a case of severe dengue may be secondary hemophagocytic lymphohistiocytosis. *Med J Arm Forces India.* 2020.
5. Al Awaidy ST, Khamis F. Dengue Fever: An Emerging Disease in Oman Requiring Urgent Public Health Interventions. *Oman Med J.* 2019; 34:91-3.