CORRESPONDENCE

Platelet Count, D-Dimer, Component Therapy and Dengue Hemorrhagic Fever

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Comment

Dear Editor, Sridhar et al. reported an interesting finding on “Correlation of the Platelet Count with D-Dimer Levels as an Indicator for Component Therapy in Children with Dengue Hemorrhagic Fever (DHF)” [1]. Sridhar et al. concluded that “DHF children with thrombocytopenia and features of shock, aggressive component therapy may prevent subsequent bleeding and may be justified [1].” In fact, the standard management of DHF with or without shock is fluid replacement therapy with closed monitoring [2]. The role of using component therapy is controversial. In the present report, there are many considerations. First, using seropositive as a selection criterion for inclusion might not successfully exclude many similar tropical diseases that can have cross reactive with dengue. Second, there is no evaluation on the effectiveness and clinical utility of using component therapy. Third, in any DHF cases with or without shock, D-dimer can be increased [3]. There is also no proof that having transfusion therapy for DHF with shock results in better clinical outcome than standard fluid replacement therapy [2]. In case that transfusion therapy is selected, the reason is usually severe bleeding presentation but not shock [4].

Rejoinder by Sridhar et al.

Dear Editor

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1. It is fully accepted that the standard treatment of shock in DHF is indeed intravenous fluids with close monitoring of the vital parameters and aggressive supportive therapy, at times, with colloids when the situation deteriorates and goes out of hand. However, the main thrust of this paper was to caution the reader in a **peripheral medical center** of the need to consider shifting the child to a better equipped hospital before the condition worsens. In this regard, while it may not be possible to transfer all patients with DHF to a higher center, it may be probably necessary and indeed wise to shift DHF children with clinical features of shock and platelet counts of less than 30,000/mm³ since these patients (as shown in the paper) do exhibit abnormalities of the coagulation parameters and increased levels of D dimer and are hence at a statistically significant increased risk of bleeding subsequently. This has been repeatedly mentioned in the paper.
2. Sero-positivity has been used as an inclusion criteria in this paper, as the aim was to evaluate the D-dimer levels in children with DHF and correlate these values with the platelet count
3. The efficacy and utility of component transfusion therapy in severe DHF and DSS has been well documented in various studies especially from the Far East. However, it was never our intention to comment categorically on this aspect, as this will require a study of far greater magnitude to do so.

Compliance with Ethical Standards

Conflict of interest None.

Ethical Approval This article does not contain any studies with human participants or animals performed by any of the authors.

References

1. Sridhar A, Sunil Kumar BM, Rau A, Rau ATK (2017) A correlation of the platelet count with D-dimer levels as an indicator for component therapy in children with dengue hemorrhagic fever. *Indian J Hematol Blood Transfus* 33(2):222–227
2. Wiwanitkit V (2010) Dengue fever: diagnosis and treatment. *Expert Rev Anti Infect Ther* 8(7):841–845
3. Orsi FA, Angerami RN, Mazetto BM, Quaino SK, Santiago-Bassora F, Castro V, de Paula EV, Annichino-Bizzacchi JM (2013) Reduced thrombin formation and excessive fibrinolysis are associated with bleeding complications in patients with dengue fever: a case-control study comparing dengue fever patients with and without bleeding manifestations. *BMC Infect Dis* 28(13):350
4. Moulton SL, Mulligan J, Srikiatkachorn A, Kalayanarooj S, Grudic GZ, Green S, Gibbons RV, Muniz GW, Hinojosa-Laborde C, Rothman AL, Thomas SJ, Convertino VA (2016) State-of-the-art monitoring in treatment of dengue shock syndrome: a case series. *J Med Case Rep* 10(1):233