

Comment on “Platelet transfusion: basic aspects”

Subhash C. Arya, Nirmala Agarwal

Sant Parmanand Hospital, Delhi, India

We compliment investigators from the Swiss Red Cross for a meticulous review of the basics of platelet transfusion in patients with haemato-oncological disorders [1], but feel that fundamental studies are needed to standardise prophylactic platelet transfusions offered to patients infected with Dengue virus (DENV).

Dengue is the most important arboviral infection of humans. Thrombocytopenia is frequently observed in the course of the infection and haemorrhage may occur in severe disease. DENV-associated thrombocytopenia could be frequent and require urgent attention. In a tertiary care hospital at Fortaleza, Brazil, during January–May 2008, of the 154 cases with a clinical and serological diagnosis of dengue, severe dengue haemorrhagic fever manifested with thrombocytopenia at the outset of ailment with marked variation throughout the disease evolution [2]. In another instance, in Mexico during 2009 to March 2010, thrombocytopenia was the rule in 90.4% cases (based on a retrospective study including files) of the reported 104 deaths caused by dengue fever. Furthermore, in one-third of the cases, the platelet counts were below 50,000/ml [3].

Nevertheless, there have been conflicting reports regarding the usefulness of platelet infusions in patients with DENV infections. A single-centre, randomised non-blinded trial was conducted in adult patients with dengue fever and platelet counts less than 30,000/ μ l. Patients with a post-transfusion platelet increment (PPI) \geq 10,000/ μ l and/or a corrected count increment (CCI) \geq 5,000/ μ l 1 hour after transfusion were considered responders. Almost half the patients showed no response to a high-dose platelet transfusion. Platelet transfusion did not prevent severe bleeding or shorten the time to the end of bleeding, and was associated with significant side effects [4]. The results obtained during a recent global survey to assess different approaches towards the use of platelets in patients with DENV infec-

tion were based on comments of physicians involved with the treatment of patients. The response from 306 physicians from 20 different countries was heterogeneous with tremendous variations in clinical practice [5].

In conclusion, basic studies resembling those in patients with haemato-oncological disorders [1] are urgently needed in patients with DENV infection to resolve the conflicting reports on the utility of such transfusions in patients with haemorrhagic manifestations of DENV infection [4, 5].

Funding / potential competing interests: No financial support and no other potential conflict of interest relevant to this article were reported.

Correspondence: Subhash C Arya, MBBS PhD, Sant Parmanand Hospital, IN-Delhi-110054, India, [Subhashbhajaj\[at\]gmail.com](mailto:Subhashbhajaj[at]gmail.com)

References

- Holbro A, Infanti L, Sigle J, Buser A. Platelet transfusion: basic aspects. *Swiss Med Wkly.* 2013;143:w13885
- Sam SS, Omar SF, Teoh BT, Abd-Jamil J, AbuBakar S. Review of Dengue hemorrhagic fever fatal cases seen among adults: a retrospective study. *PLoS Negl Trop Dis.* 2013;7(5):e2194.
- Azin FR, Gonçalves RP, Pitombeira MH, Lima DM, Branco IC. Dengue: profile of hematological and biochemical dynamics. *Rev Bras Hematol Hemoter.* 2012;34(1):36–41.
- Khan Assir MZ, Kamran U, Ahmad HI, Bashir S, Mansoor H, Anees SB, et al. Effectiveness of platelet transfusion in dengue Fever: a randomized controlled trial. *Transfus Med Hemother.* 2013;40(5):362–8.
- Whitehorn J, Rodriguez Roche R, Guzman MG, Martinez E, Gomez WV, Nainggolan L, et al. Prophylactic platelets in dengue: survey responses highlight lack of an evidence base. *PLoS Negl Trop Dis.* 2012;6(6):e1716.