

Blood-borne dengue virus: severe dengue case report in a hematopoietic stem cell recipient and review

Background: Dengue transmission through blood products is rare and screening is not standard of practice in blood banks, even in endemic countries.

Objectives: To report a dengue case transmitted by platelets transfusion in a hematopoietic stem cell transplant (HSCT) recipient and to present a literature review.

Design: Case description and review of case records and pertaining literature

Results: We report a case of a patient diagnosed with lymphoblastic lymphoma who developed severe dengue after an autologous HSCT. She presented severe hemorrhagic events, shock and serositis. Three days after the platelet transfusion, the donor reported to the medical team the development of classical dengue fever. The blood was analyzed and results were positive for IgM against DENV in donor and recipient samples. RT-PCR revealed 178,602 and 8,491 DENV RNA copies/ml, respectively. Transmission through platelets transfusion was confirmed by amplification and sequence of NS1 region of both viruses and compared with other samples, including samples from the same outbreak. The phylogenetic tree shows that viruses from the donor and HSCT recipient are identical in the sequenced region, supporting the hypothesis that this is a case of blood component-transmitted dengue.

Conclusion: Blood-borne DENV transmission may rarely result in severe case presentation. More studies are needed to identify the incidence of DENV transmission by blood products and its relevance in public health. New strategies are important to monitor DENV blood transfusion during large outbreaks.