Ebola: a call for blood transfusion strategy in sub-Saharan Africa

WHO has stated that convalescent blood or plasma is an option in the treatment of Ebola. In 1999, transfusion of locally collected convalescent blood helped decrease Ebola mortality. WHO recommends collection of convalescent plasma to treat patients in the fight against the Ebola outbreak. As there is an estimated 70% mortality, a randomised clinical evaluation involving 50 patients, receiving convalescent and control normal plasma, would be sufficient to confirm the usefulness of this approach in treatment strategies.

Capacity building for the collection and testing of sufficient convalescent blood or plasma from recovered Ebola patients is crucial. However, paradoxically, the outbreaks are occurring in the countries that have the least capability for blood and plasma collection or viral screening, and which lack infrastructure, equipment, and trained personnel. To ensure collection of safe convalescent plasma, donors must be clinically and virally free of Ebola Virus Disease (EVD) and other relevant viruses. Convalescent plasma is the preferred product, either fresh or fresh-frozen, collected by plasmapheresis without compromising the donor’s haemoglobin level. Plasmapheresis provides large volumes (500 ml) and can usually be repeated at 2–3 day intervals. Donors selected from the same geographical area are recommended and can provide treatment for many patients. In most African countries there is a paucity of expertise, infrastructure and equipment; however, plasmapheresis equipment can be donated and training provided in-country or at regional Blood Services. Portable generators can provide power for equipment and refrigerators. The Ebola emergency shows the importance of strengthening the technical capacity and infrastructure of local transfusion systems, to respond to present and future infectious outbreaks.

The importance of ensuring adequate, accessible, and safe blood—in all countries—is a global priority. Whole blood and labile blood components are now on the WHO’s Essential Medicines List (EML), emphasising the crucial role of transfusions in public health. In sub-Saharan Africa, whole blood, when available, is a life-saving product for emergency use that, together with convalescent plasma, might be the only available clinical option in the treatment of Ebola patients at present. National governments should develop sustainable local blood services for an adequate supply of safe blood as a priority. WHO’s urgent appeal, supporting the use of convalescent blood products to fight Ebola, is a timely reminder of the many World Health Assembly resolutions supporting such actions, particularly in low resource countries.

We declare no competing interests.

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