Patient Blood Management: Clinical Hemotherapy and Hemostasis Management in Perioperative Settings

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The current issue of TRANSFUSION MEDICINE AND HEMOTHERAPY is intended to introduce our readers as well as blood banks and hospitals to the goals of patient blood management (PBM). Consistently, all comprehensive reviews and original articles published here might help in promoting the international exchange of knowledge with a variety of clinical disciplines and their scientific societies. The recently published World Health Assembly Resolution on availability, safety, and quality of blood products [1] urges the implementation of PBM programs in all 193 WHO member states 'in order to ensure that regulatory control in the area of quality and safety of blood products across the entire transfusion chain meets internationally recognized standards'. For Germany, updated Cross-Sectional Guidelines [2] were published recently in English that widely reflect the current state of scientific knowledge in transfusion medicine covering both the pharmaceutical preparation and therapeutic application of cellular blood components and plasma derivatives. By applying the general principles of evidence-based medicine, these recommendations allow for facilitating the decision-making of physicians when blood transfusions are in the patient's best interest [3].

PBM is based on the timely application of medical and surgical concepts designed to maintain patient's hemoglobin concentration, optimize hemostasis, minimize blood loss, and reduce or even avoid blood transfusions and subsequent transfusion-associated adverse events. The main target of PBM is to improve the patient's outcome [4].

Further issues in regard to blood transfusion are more and more limited blood supply and concurrently increased blood requirements in a more and more aged population especially for hospitals of maximum medical care [5]. A special issue of TRANSFUSION MEDICINE AND HEMOTHERAPY in 2010 has addressed future challenges in the European blood supply in consideration of this demographic development [overview in 6]. Safety of blood transfusion has increased dramatically with regard to viral transmission but this was associated

with dramatically increased costs for laboratory tests including PCR testing. On the other hand, more unspecific adverse events such as transfusion-related acute lung injury (TRALI), transfusion-associated circulatory overload (TACO), transfusion-related immunomodulation (TRIM), and subsequent nosocomial infections still are major risks when transfusing allogeneic blood and have come more and more to the fore during the last years [7, 8] as these transfusion-associated adverse events are associated with increased morbidity and mortality and hospital costs as well [8–10].

In principle, PBM is an interdisciplinary approach including and cross-linking several specialties such as transfusion medicine, hematology, hemostaseology, anesthesiology, intensive care medicine, and surgery [11]. Implementing concerted strategies starting with early detection and treatment of preoperative anemia, introducing blood-saving surgical techniques, early bleeding control by point-of-care coagulation monitoring and calculated goal-directed hemostatic interventions, re-transfusion of (washed) salvaged or drained blood during and after surgery, and, last not least, strategies to increase patient's resistance to postoperative anemia, are the main pillars of PBM [7–9, 11–14]. Inappropriate or unnecessary blood transfusion should strictly be avoided [7]. Furthermore, close communication and collaboration between the involved disciplines are essential for success in PBM or at least for improving patient's outcome.

Moreover, the interdisciplinary concept of PBM bears the big chance for all participating specialties to increase their personal knowledge by looking beyond one's own nose. In this spirit, PBM illustrates the fact that big issues can only be solved by interdisciplinary concepts and close collaboration. This special issue on PBM is intended to emphasize this concept and to animate all colleagues involved in the management of bleeding and blood transfusion to expand their networking in this field and to increase their efforts to improve the patient's outcome.

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