Editorial

Error reporting in transfusion medicine: an important tool to improve patient safety

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Transfusion medicine consists of multiple process steps involving both the blood donors and the recipients. As it starts with the recruitment of donors and ends with the monitoring of adverse infectious and non-infectious events in both donors and recipients (i.e., hemovigilance), it involves several persons including healthcare aides, secretaries, phlebotomists, transporters, laboratory technicians, nurses and physicians (1). Thus, the transfusion process is particularly complex and every professional involved at each step plays a critical role in ensuring the patients’ safety, i.e., in getting the right blood to the right patient (2, 3).

The main strategies to minimize the risk of potentially fatal acute hemolytic transfusion reactions (HTR) due to ABO-incompatible blood include the avoidance of unnecessary transfusions through the rational use of evidence-based transfusion guidelines and the implementation of patient identification procedures by the addition of information technologies (4). The latter, which include identification bracelets with alphanumeric codes, barcode bracelets read by handheld scanners and bedside wireless computers, radiofrequency identification systems and mobile fingerprint sensors, have greatly improved the transfusion safety in the last decade (5–8). However, the most important strategy for reduction and prevention of ABO-incompatible transfusion has been probably the implementation of surveillance systems worldwide (9) and significant reductions in these avoidable deaths over the last decade have been observed in countries with a well developed hemovigilance system, such as the UK (Serious Hazard Of Transfusion, SHOT) and France (2, 10).

The importance of error identification and reporting has already been highlighted throughout the total testing process of conventional laboratory diagnostics (11–15), and is further strengthened for improving transfusion safety in the study by Dr. Priti and colleagues which is published in this issue of Clinical Chemistry and Laboratory Medicine (16). Indeed, the authors developed an interesting and complete transfusion-related adverse event reporting in their hospital in North India, which permitted 285 transfusion-related events to be collected during the 1-year study period. As expected, the great majority of them were near-miss events (95%), while acute HTR due to ABO-incompatible transfusion occurred in one in every 60,309 component units. Importantly, the analysis of single near-miss events permitted the more critical phases of the transfusional process to be identified (i.e., the pre-analytical phase) and to plan corrective actions. This is the case, e.g., of the introduction of the patients’ blood group check from a second sample to prevent wrong blood in the tube (WBIT) errors.

In conclusion, we agree with the authors when they outlined that the implementation of an efficient hemovigilance system is necessary to undertake corrective and preventive actions to reduce errors and, finally, improve transfusion safety.

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