Advancing Transfusion and Cellular Therapies Worldwide

ASSOCIATION BULLETIN

#06-05

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To: AABB Members

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Re: Monitoring and Preventing the Occurrence of Deviations and Near-Miss Events in Pretransfusion Testing: Mislabeling/Wrong Blood in Tube

Summary
The 33rd edition of *Standards for Blood Banks and Transfusion Services*[1] includes language requiring transfusing facilities to monitor deviations and nonconformances (Standard 7.0). Facilities are also required (Standard 8.2) to have a peer review program that monitors, among other issues, patient identification, sample collection and labeling, and near-miss events. This Association Bulletin is intended to provide information to transfusion services on a particularly important and common type of issue associated with pretransfusion testing: the procurement and use of a patient specimen labeled with another individual's name/identification number, referred to as "wrong blood in tube" (WBIT).

Background
A mislabeled blood specimen generally is defined as one whose labeling does not meet the local institutionally defined criteria for accessioning into the laboratory. Common examples include misspelled last names, a missing or incorrect medical record number, or mismatched information between the specimen and the requisition. Such specimens are not suitable for pretransfusion compatibility testing and the errors associated with them underscore the importance of positive patient identification at the time of sample collection and labeling for safe transfusion. Guidance on specimen labeling is available in the AABB publication *Guidelines for the Labeling of Specimens for Compatibility Testing*.[2]

A subset of mislabeling is the problem known as WBIT, where an apparently properly labeled tube identifying blood from one patient actually contains blood from another.[3] This type of event is most often recognized when the ABO/Rh result of the current sample is compared with the historical record on file for the patient. One study that

examined prospectively all rejected mislabeled specimens and also noted all discrepant serologic results from "appropriately labeled" samples found that specimens with an obvious labeling error are much more likely to contain WBIT.[4] More recent review of FDA fatalities associated with ABO incompatible red cell transfusions show that WBITs, though decreased in frequency, remain one of the most common causes. In all reviewed cases, verification of the ABO type with a second sample or historic type was not performed[5].

Incidence of WBIT

Mislabeled specimens, including WBIT, occur frequently. In a study involving one major US academic medical center, Lumadue et al[4] cite a mislabeling rate of 1 in 71 specimens, and a WBIT rate of 1 in 2800 specimens. Consistent with these observations, a large international prospective study of specimen collection for pretransfusion testing found a mislabeled rate of 1 in 165 specimens and a WBIT rate of approximately 1 in 2000 specimens.[6] Electronic patient identification systems have been associated with a fivefold reduction in WBIT errors.[7]

Identified cases of WBIT represent only a subset of the true number of WBIT events because new patients with no historical record are not captured. And, two misidentified patients who share the same blood group by chance are also not captured. Correction factors to account for these two variables may be used to obtain the true WBIT rate from the raw number of WBIT cases identified.[3]

Conclusion

Identifying the frequency of deviations such as WBIT events will fulfill, in part, the new requirement to monitor blood utilization as specified in Standard 8.2 and at the same time improve the safety of transfusion practices. The new requirement is also consistent with the national patient safety goal of improving the accuracy of patient identification promulgated by the Joint Commission on Accreditation of Healthcare Organizations.

Because transfusion services are already required to check historical blood bank records, any case in which the blood group information does not match the current sample should be identified and investigated. Tracking these events and root cause analyses will help develop a corrective action plan to prevent future occurrences. Determining the magnitude of the WBIT specimen problem in an institution is an important step toward the ultimate goal of improving transfusion safety.

Transfusing facilities should take steps to monitor and prevent the occurrence of WBIT. Guidance, including recommendations for monitoring and preventing WBIT, is available in the AABB publication *Guidelines for the Quality Assessment of Transfusion*.[8]

References

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