Dangerous Clinical Practice Caught By Near Miss Analysis
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Background
A wrong blood in tube (WBIT) incident can lead to transfusion of an incorrect blood component, incompatible for ABO, which could have disastrous consequences for the patient. Wrong blood in tube is defined as:
- blood taken from the wrong patient, but labelled with the intended patient's details
- blood taken from the intended patient, but labelled with another patient's details

Most of these incidents are detected in the laboratory, so do not result in a wrong transfusion and are therefore classified as 'near miss'. Serious Hazards of Transfusion (SHOT) the UK confidential haemovigilance reporting scheme, encourages reporting of all near miss incidents and these have been fully analysed since 2010.

Aim
To investigate near miss WBIT incidents to determine whether the staff groups responsible, the causes of the errors and the means of detection of these incidents have changed over a five year period.

Method
A retrospective analysis was performed of near miss WBIT incidents reported to SHOT in the five-year period January 2010 to December 2014. The data were collated for:
- Staff responsible for taking samples
- Practices leading to WBIT
- Circumstances leading to detection of WBIT

Results
Total near miss WBIT incidents have risen each year from 386 in 2010 to 686 in 2014, but the overall pattern remains unchanged:
- Most WBIT samples are taken by medical staff (Figure 1)
- The underlying poor practices remain failure to identify the patient correctly and labelling the sample away from the bedside (Figure 2)
- The majority are detected by the laboratory because a previous blood group sample from the patient gave different results (Figure 3)

During this five-year period there were 14 cases resulting in patient harm (i.e. not near misses) and 5/14 (37.5%) incorrect transfusions were ABO-incompatible.

In the first three years the ratio was approximately 1 wrong transfusion to every 100 near miss events, but in the last two years there have been more near miss WBITs reported, but no resultant wrong transfusions. This may relate to introduction of the check sample as recommended in BCSH* guidelines in 2012.

Conclusions
Reports of near miss WBIT events continue to rise year on year and the causes have remained constant. The majority of WBITs are detected before patient harm, mostly in the transfusion laboratory, whereas the staff responsible and the causes of WBIT sampling errors are entirely in the clinical area. The quality management systems and guidelines related to laboratory practice are designed to detect WBITs, but that cannot be relied upon to detect every error.

Recommendations
- Clinical practice should be improved to reduce the incidence of WBITs, particularly by concentrating on quality management of the sample taking procedure.
- The 2013 SHOT Report recommended the transfusion process should be redesigned in line with human factors research to design out errors such as WBIT

\(^*\)BCSH = British Committee for Standards in Haematology