14. NEAR MISS EVENTS

Definition:
Any error, which if undetected, could result in the determination of a wrong blood group, or issue, collection, or administration of an incorrect, inappropriate or unsuitable component but which was recognised before transfusion took place.

Whilst continuation of the "Near Miss" project, reported last year, was not an official part of the SHOT scheme in this reporting year, 157 reports were submitted from 22 hospitals and the analysis of these is given below.

Incident reporting, even for events detected within the system before results or components are issued, is a valuable audit tool, often having the same root causes as actual transfusion accidents. Complete evaluation of such reports can provide useful management information to identify deficiencies and weak aspects of systems in place, as well as highlight areas of importance within the checking protocols used. All staff should be encouraged to be aware of the need to report "near miss" events and constructive feedback, as an educational aid, is essential [8].

To obtain complete openness within such a reporting system, a culture of "no blame" must prevail as many errors result from deficiency or failure within the systems in use (and are therefore a management issue) rather than from any deliberate individual action. Managers must be aware of the ever present possibility of human error and ensure that systems are sufficiently robust to be able to detect errors before they can affect the patient.

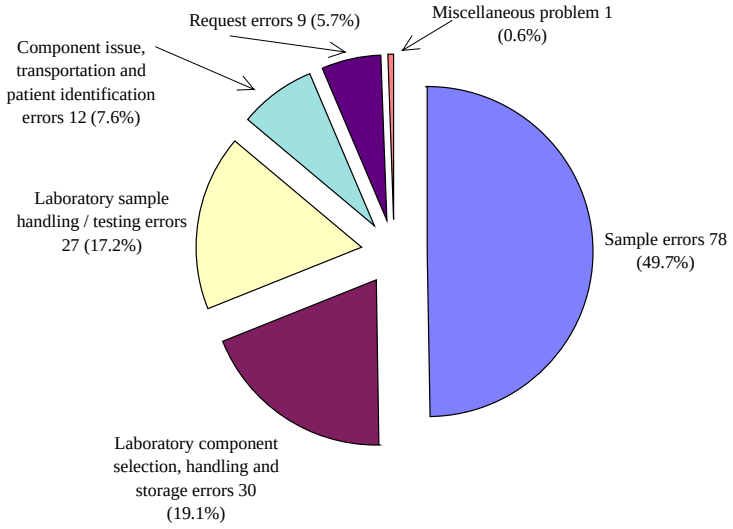
The "Near Miss" reporting process comprises of a single form for different categories of event, with tick boxes to aid rapid recording of details. In the majority of cases no additional contact or information is necessary. The 5 activity areas covered by "near miss"

1. Sample errors
2. Request errors
3. Laboratory sample handling / testing errors
4. Laboratory component selection, handling and storage errors
5. Component issue, transportation and patient identification errors

In addition a single incident was submitted which could not be classified into one of the above categories and this is included as a miscellaneous report.

The following Pie chart shows the number of reports in each category

Figure 22
Categories of "near miss" errors reported (n=157)



Sample errors (78)

Approximately 50% of the total "Near Miss" reports were for this category and highlight the need for increasing awareness, particularly amongst medical staff, of following secure protocols when performing phlebotomy. Samples should be labelled at the bedside, checking the patient wrist band and asking the patient, where possible, to iterate their personal details.

The majority of errors were detected within the laboratory by a discrepant blood group result for the current sample when compared to historical records. Occasionally the person performing the phlebotomy realised the error retrospectively and notified the laboratory of their concerns.

43/78 samples, although labelled as the intended patient, were thought to be from a totally different patient, whilst 34/78 were identified as being from the intended patient but labelled with a different patients details. In 10 instances it was suspected that patient samples were transposed when labelling was performed after the phlebotomy procedure. Mother and cord blood samples were confused on 6 occasions and all laboratories should be aware of this potential problem and perform appropriate testing to ensure detection of such cases.

The majority of phlebotomy errors were identified as having been made by medical staff, but at least 18 events were attributed to nursing staff and 9 to dedicated phlebotomists. 40% (29/72) of errors were reported as occurring outside laboratory normal working hours.

Although all reports identified the samples as being hand labelled, the use of addressograph labels on the form was a causative factor in some cases. In one instance addressograph labels for another, albeit very similarly named patient, were in the case notes and used on the form, the patient details being copied onto the sample labels. A unit of blood was then transfused to the intended patient, the discrepancy in patient details still not being recognised during the bedside check. It should be noted that, strictly speaking, this incident does not fulfil the criteria for a "near miss" and by SHOT definition fits into the IBCT category as a "right blood to right patient" incident despite serious breaches of protocol.

Several other serious ward / medical record errors or omissions were identified. These included:

- 2 patients with similar names were in the same ward bay and the same incorrect phlebotomy was performed twice by the same medical officer on consecutive days. Neither patient had a wrist band.
- wrist bands were absent on 2 other inpatients involved in separate incidents.
- on 2 occasions it was identified that the wrong patient case notes were being used on the wards, and sample details had been copied from case notes onto the sample labels. Wrist bands were not checked.
- one patient had another similar patient's identification details on the wrist band.
- addressograph labels for incorrect patients were found in the case notes on 3 separate occasions.

Request errors (9)

Incorrect patient identification was provided to the laboratory on 7 occasions when blood components were requested; this was by telephone for 4 requests.

One incident resulted from the wrong patient's addressograph labels being placed in the notes, whilst in another case the 2 copies of the request form bore addressograph labels from different patients, the incorrect patient label being on the top copy.

Laboratory sample handling / testing errors (27)

Laboratory errors were caused by erroneous results attributed to poor technique or procedural failure in 10/27 reports, 7 by incorrect result interpretation and 6 by transcription errors. A clerical error of a wrong ABO blood group was noted on one report from a blood centre. On 3 occasions samples were transposed or wrong bar code labels applied within the laboratory.

No specific problem area or trend could be identified from the reports.

Laboratory component selection, handling and storage errors (30)

An avoidable failure by the laboratory to provide for the special needs of the patient occurred in 12 instances, an incorrect or out of date component was issued in 10 and problems with incorrect storage was reported on 8 occasions.

All 12 reports where the laboratory failed to meet the special needs of the patient were omissions of requirements for irradiated, CMV antibody negative or specially phenotyped components. All were noticed by the laboratory staff before release or detected by the ward bedside checking procedures.

On 6 occasions out of date red cells were issued by laboratories, in one instance 7 days past expiry, and in another by 5 days. The other 4 incorrect issues involved compatible but ABO or RhD mismatched red cells issued in error.

The correct storage of blood components was a concern in 8/31 reports. Blood was placed into a domestic refrigerator on wards in 4 instances, once into the freezer compartment, whilst blood was left on the ward for an excessive time on 3 other occasions before being replaced into a designated blood bank refrigerator

In the remaining report, thermostat failure in a laboratory based blood refrigerator caused the temperature to fall to -5^{o} C, which activated the alarm, however no immediate action was taken resulting in the wastage of 81 units of red cells.

Component issue, transportation and patient identification errors (12)

Blood components were collected for the wrong patient on 10 occasions but detected by the bedside check before transfusion. Portering staff were involved in 9/10 incidents, although 2 of these resulted from the wards using an incorrect addressograph label on the collection slip.
2 problems with transportation of red cells were identified.

- Blood was transferred with a patient from another hospital, left on the ward for 4 hours before being sent to the laboratory
- Blood was transported from an external hospital with no documentation, and with ice inserts instead of 4^{o}C packs

Miscellaneous (1)

A request for platelet transfusion was received for a patient with a platelet count of $5x10^{9}$/l. Before the transfusion was given a repeat platelet count was performed and was found to be normal. Investigations showed that the original FBC sample had been aliquoted from a biochemistry sample by the nurse who performed the phlebotomy.

COMMENTARY

As in previous "Near Miss" surveys, the problems of incorrect patient identification at phlebotomy comprises the majority of incidents in any single category, with almost 50% of this year's reports being sample errors. Several contributory factors are evident, but all these would be irrelevant if patient identity was fully confirmed at the bedside during phlebotomy and samples labelled at that point.

- Failure to follow correct phlebotomy protocols remains the major cause of "near miss" events. Whilst, in this report, medical staff appear to be associated with the majority, errors are not limited to this group of staff. The particular problem of transposition of mother and baby samples is highlighted.

- A significant number of phlebotomy errors were identified by comparison to laboratory computer records, but it must be recognised that not all can be detected in this way, either because of an identical blood group result or due to the lack of previous testing for that patient.

- Despite recommendations to the contrary in previous SHOT reports [2,3,4] and BCSH guidelines[5,17] the use of addressograph labels continues to give rise to errors. A larger survey, such as the national "Near Miss" project now in place, may provide the data needed to assess if the use of pre-printed labels is a serious problem. Whilst this report focuses on the transfusion process, when wrong addressograph labels find their way into a patient's notes, it is not hard to imagine that this may give rise to errors in other aspects of that patient's management.

- Despite the high degree of automation and computerisation which exists in the majority of hospital blood banks, technical and clerical errors comprised a significant proportion of "near miss" events in this report.

- There were several examples of incorrect handling of components outside the laboratory and of transportation between hospitals, all resulting in wastage of the components. The extent of mis-handling of blood components is not clear from this report but the Blood Stocks Management Scheme, which is being introduced this year, may provide more meaningful data.

- It was noted that among the 22 hospitals reporting "near miss" events at least one laboratory in a large hospital did not have a blood bank computer system in place. Several reports from this hospital would have been prevented by computer validation of technical actions. Comparison of current information with the historical record is also facilitated by computerisation.

- Some instances of samples being received unlabelled were reported as "Near Miss" events. As these are rejected at the point of receipt as being unsuitable for acceptance into the laboratory, it is not considered necessary to submit these problems as "Near Miss" reports.

RECOMMENDATIONS

- **Hospital Trusts should ensure that all staff, whatever their background, who carry out phlebotomy are fully trained and competent to do so and that they understand the importance of following correct procedures to avoid sample transposition and ensure complete and accurate labelling.**

- **All staff involved at every stage of the transfusion process must assume responsibility for ensuring that their particular role is fulfilled correctly. Whilst the laboratory historical record is an essential tool in ensuring transfusion safety it cannot be relied upon as a "fail safe" for all instances of sample transposition or cases of incorrect prescribing.**

- **More care is required in the handling of addressograph labels. If these find their way into the wrong set of patient case notes the scene is set for incorrect labelling, not only in the blood transfusion setting but also in other areas of patient management. It is important that BCSH guidelines [5,17] are enforced in order to reduce transfusion errors due to this cause but the problem of mishandling of labels extends beyond staff involved in the transfusion process itself.**

- **Constant vigilance and regular review of competence in the laboratory is essential in order to reduce the risk of technical and clerical errors. These will also be reduced with greater reliance on well designed automated systems and computerisation.**

- **There remains a clear need to educate staff responsible for the handling of blood components as to their correct handling, storage and transport.**

Expansion of the "Near Miss" scheme for 2000- 2001

The small-scale scheme already performed attracted significant interest and enthusiasm from many hospitals. Consequently, data is now being accepted from all hospitals in the UK during the forthcoming reporting year to develop a larger, and therefore a more accurate and informative database of near miss events. Near Miss reporting forms, together with instructions for reporters, were sent to all hospitals earlier in the year and as this report went to press the SHOT office had already taken receipt of a substantial number of completed forms.

The work involved in collation, database maintenance and evaluation of data will be significant, but this is an opportunity to see if the small reporting base from previous years is representative of the majority of hospital experiences. The results will be presented in next year's SHOT Report.