5 Near Miss Events

Definition :

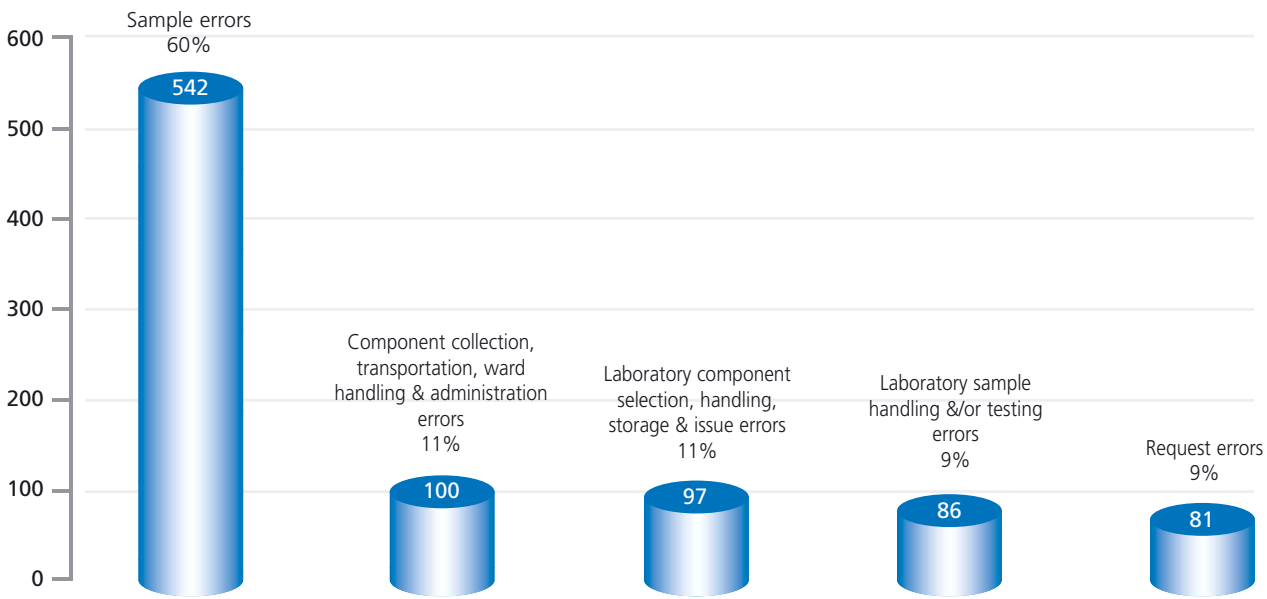
Any error, which if undetected, could result in the determination of a wrong blood group, or issue, collection, or administration of an incorrect, inappropriate or unsuitable component but which was recognised before transfusion took place.

The history and future of "near miss"

Following small pilot schemes first launched in 1997/98 and repeated the following two years, SHOT invited all UK hospitals to report "near miss" incidents beginning with the report year 2000/2001. The picture has been a consistent one showing errors made during phlebotomy to be by far the most numerous (50% in 2000/2001, 59% in 2001/2002 and 60% in 2003). Anecdotal evidence from reporting hospitals suggests that "near miss" events are frequent and common but there is demonstrable gross under-reporting. Last year, while overall reporting to SHOT was calculated to be 93%, "near miss" reports were received from only 41% of participating hospitals. The most likely explanation for this is that the large number of events witnessed makes reporting of them difficult to sustain. Since the pattern of events appears to vary little from year to year it would seem logical and advisable to move to a system of enabling hospitals to report their "near miss" events en masse rather than having to complete a single form for each event. We know that many hospitals report this way internally and we would like to find methods of sharing this information without increasing greatly the workload of already over-stretched laboratory staff. Many valuable lessons have been learned from the data we have collected so far but there seems little point in simply re-iterating the same messages particularly since we are probably seeing only the tip of the iceberg. The chapter this year then is considerably shorter than in previous years and aims to give an overview rather than an in-depth analysis of events we have reported on before.

For consistency, the categories and numbers of events reported this year are shown in figure 7.

Figure 7
Categories and proportions of "near miss" events



Category 1 : Sample errors (542 cases)

Once again sampling errors proved to be the most numerous comprising 60% of all "near miss" events reported. The majority of these errors were picked up from historical records on laboratory computers or by the vigilance of laboratory staff in carrying out double checks. Several of these events involved errors in haematology or biochemistry results which, although not strictly the responsibility of blood transfusion laboratories, would have resulted in unnecessary transfusions had they not been discovered in time. This is an important issue since there has been a large number of cases reported in the "Incorrect Blood Component Transfused" chapter which, unfortunately, were not detected in time. Many errors reported last year were consistent with those reported in earlier years. In particular the following types of error occur regularly and should be a priority for investigation and prevention :

- Samples in syringes, which are left unattended for a period and then dispensed into tubes without mixing.
- Dilute samples taken from "drip arms".
- Point-of-care (POC) testing variations.
- Labelling of samples remote from the patient.
- Pre-labelling of specimen tubes for RhD negative deliveries with subsequent confusion of tubes between mother and baby.
- Wrong addressograph labels used.
- Labels placed in wrong patients' notes.
- Poor patient identification using only one or two identifiers.

Category 2 : Request errors (81 cases)

A frequently reported problem in this category was a failure to notify the transfusion laboratory of the need for CMV negative and/or irradiated components. This is a commonly recurring theme both in "near miss" events and in full incidents and often indicates a need for improved communication between hospitals where patients are receiving shared care.

The majority of errors in this category were made by junior doctors, usually senior house officers, highlighting the need for education and training for medical staff requesting and prescribing blood components.

Category 3 : Laboratory sample handling / testing errors (86 cases)

A wide variety of errors was reported in this category consistent with previous years. It is interesting that many of these incidents were said to have occurred because the staff were either "very busy" or "under pressure" indicating the need for Trusts to review staffing levels or shift patterns. Most of these laboratory errors were recognised by the staff themselves retrospectively but not always before components had been issued.

Category 4 : Laboratory component selection, handling and storage errors (97 cases)

The majority of these reports related to poor housekeeping systems with evidence of poor practice in stock control of remote refrigerators. In addition there were several cases involving the issue of units close to expiry which were to be used for theatre cover at a later date. There were also several cases in which a refrigerator alarm had failed but this was not recognised by the staff.

Nine cases were reported in which the Blood Centre had provided the wrong specification of component to the hospital. The most worrying of these was one in which granulocytes were provided which had not been irradiated. The hospital BMS was unaware of the need for irradiation and issued the component to the ward. Fortunately the error was picked up at the pre-transfusion check.

Category 5 : Component issue, transportation and patient identification errors (100 cases)

Storage and transport problems accounted for 51% of errors in this category. Most of these involved storing units in inappropriate refrigerators, for example chemotherapy and drug refrigerators. Several cases were reported of blood being left out of temperature control for extended periods including 1 unit which was left on top of a locker for 12 days. The collection of an incorrect unit was another frequently reported error, this year comprising 31% of category 5 errors. Notably in 20 of these 31 cases the unit was collected by a porter and porters were also cited in 3 other category 5 incidents.

In one reported case the porter happened to meet the SPOT en route from the blood bank. He was found to have no documentation with him, had collected the wrong unit of blood and was planning to complete the collection slip retrospectively. In another case the porter collecting the blood had received no training and was unable to read English, and in a third, the person collecting the blood had forgotten her glasses!

Right blood to right patient

Each year there are a number of cases reported in which the patient receives entirely appropriate blood which was intended for them but which, nevertheless, had some element in the process which was wrong and which could, under different circumstances, have led to a serious transfusion error. It has always been difficult for SHOT to place these events appropriately. They do not constitute Incorrect Blood Transfused events since they are not covered by that definition. Nor can they really be defined as "near miss" since that definition requires that no volume of blood should have been transfused. They are, however, fairly frequent and warrant some discussion. It has been decided, therefore, to include them in the numbers of "near miss" events as a separate category and to try to amend the definition accordingly before the next reporting year. There were 29 such cases reported this year.

Problems in reporting

This year unforeseen technical problems with the SHOT database have meant that cases coming in to the office have not been reviewed in a timely manner. This has produced the unfortunate effect of cases being reported as "near miss" which were, in fact, full IBCT incidents. However, by the time these cases were ready for review it was too late to obtain the necessary information from hospitals which would have enabled us to convert them into IBCTs and report on them properly. These cases are, therefore, not counted in the numbers of either "near miss" events or IBCTs for this year. Reporters are asked to be particularly careful about not reporting IBCTs as near misses and to contact the SHOT office at any time if they have any doubt about a particular case. The one essential criterion to remember is that an event is not "near miss" by our definition if any volume at all has been transfused. The error must have been recognised before any blood component passed through the venflon. The "near miss" definition does not allow for reporting of events where, for example, a patient received a small volume of red cells which were intended for another patient but which was, fortuitously, fully compatible and the patient suffered no ill effects. These cases are defined as "Incorrect Blood Component Transfused" and must be reported on the appropriate form.

There were 6 such cases reported inappropriately as "near miss" which were, in fact, full IBCT incidents and these are summarised below. At the end of each case the reporter's rationale for reporting them as "near miss" is included and is intended to illustrate the sorts of false reasoning outlined above.

1. A patient on a coronary care unit was given 2 units of blood based on a Hb result of 98 g/L. Over the next 2 days there were widely differing Hb results for this patient ranging from 74 g/L to 138 g/L. A further 2 units were transfused in the meantime. It is thought that the discrepant results were due to dilute samples though this has not been fully established.

   The case was reported as "near miss" because the patient suffered no ill effects

2. A patient due to go into theatre had Hb results in his notes which belonged to another patient. This result was used as an indicator for transfusion. Nursing and theatre staff questioned the need for the transfusion and discovered the error on investigation.

   Reported as "near miss" because the transfusion was stopped after only a few mL had been transfused and the patient suffered no harm

3. A unit of blood was transfused to a patient 47 hours after the crossmatch had expired.

   Case reported as "near miss" because the blood was crossmatched for the patient concerned

4. A transcription error in the laboratory led to incorrect patient details being used to group and crossmatch a unit of blood.

   This was reported as "near miss" because the unit transfused was compatible

5. Prophylactic anti-D was issued by the laboratory and the ward informed that it was ready for collection. However the unit was not collected until 5 days later despite daily reminders by the laboratory staff.

   Reported as "near miss" because the anti-D was given eventually

6. Anti-D was not given to a pregnant woman who was RhD negative and who had chorionic villus sampling (CVS) in an antenatal clinic. The consultant in the clinic wrote her blood group in the CVS book as RhD positive based on a verbal report by the patient.

   This was reported as "near miss" because the patient had been given anti-D in a previous pregnancy

"Near miss" reporting 2004 and 2005

Discussions are underway concerning how to collect "near miss" data in the future. We are aiming to develop new systems in time for the start of reporting in 2005. Meanwhile we are continuing to accept reports on the current questionnaires and hospitals are encouraged to submit as many reports as possible. We know that some hospitals report their "near miss" incidents in bulk internally. Until the new systems are in place we would also encourage hospitals to phone the SHOT office for advice if they would also like to report these cases to SHOT. We will endeavour to find ways of handling bulk reports manually until new systems have been developed.