

**Case 2 Reluctance to take a further sample puts patient at risk**

*An on-call BMS received an urgent telephone request for 2 units of red cells, and was informed that there was a sample already in the laboratory. In this small hospital the on-call BMS was also responsible for phlebotomy out-of-hours and was reluctant to take a further sample from the patient. He was unable to find a transfusion sample, but instead located a full blood count sample taken the previous day and labelled with the patient's details. In contravention of laboratory procedures he used this sample for pre-transfusion testing; crossmatching and issuing 2 units of group A blood. An acute haemolytic transfusion reaction occurred after the first 30ml of blood were transfused. A further sample was taken from the patient and the correct group was found to be O. The sample had been taken from the wrong patient. The wrongly transfused patient survived the episode. The BMS was dismissed.*

**Wrongly labelled samples**

In 2 cases the sample was taken from the correct patient but labelled with the wrong details, resulting in mis-transfusion.

**Case 3 Benefit of historical record lost by incorrect labelling**

*This patient had been previously found to have auto-antibodies and a reference laboratory had recommended R<sub>1</sub>R<sub>1</sub> blood. The wrong surname was written on both the sample and request form and an emergency admission number was given instead of a hospital number. The only correct reference points were the first name and the date of birth. The laboratory was therefore unable to find any previous record of the patient that would have alerted them to provide phenotyped blood. The patient suffered no ill effects.*

**Case 4 Confusion on SCBU results in wrong transfusion**

*Two infants on a neonatal unit, Baby Bloggs and Baby Soap, had the same date of birth. Baby Bloggs required transfusion. The SHO labelled the request form and the sample with Baby Soap's details and verbally requested blood for Baby Soap. Mrs Soap's sample was used for pretransfusion testing. Group O RhD negative blood was selected. The baby suffered no ill effects. See also Case 10, Chapter 12.*

**Learning points**

- Misidentification of patient samples can result in potentially fatal ABO incompatible transfusion; there may be no means of detecting the error further down the chain.
- Discrepancies of labelling may result in duplication of patient records and loss of valuable information.

**Inappropriate transfusions due to sample errors, analytical errors, communication failures and prescription errors**

In 29 cases this year, patients were unnecessarily transfused or over-transfused as a result of errors in blood sampling or testing, mis-communication or mis-documentation of haematology results. Eleven of these were dilute samples taken from 'drip arms' or allowed to settle in syringes. In two cases the laboratory suggested the possibility of a dilute sample but clinical staff nevertheless proceeded with transfusion.

There were six errors by haematology laboratories; two of which were wrong haemoglobin determinations, one a wrong fibrinogen estimation leading to unnecessary transfusion of cryoprecipitate and three were spuriously low platelet counts due to clots or clumping as a result of which patients received platelet transfusions. Again this year, a haemoglobin level in one case was wrongly determined from a blood gas analyser; four other wrong haemoglobin results were unexplained.

In 7 cases, haematology results were wrongly documented or misinterpreted; in three of these the white cell count was taken to be the haemoglobin level.

One patient with sickle cell disease was transfused on the basis of wrong clinical advice from a specialist nurse at another hospital. In one case FFP was requested for and transfused to the wrong patient.

Three paediatric patients were over-transfused because of wrongly calculated prescriptions; these cases are discussed in chapter 12. One of these was also a laboratory error as adult red cell units were selected for an 18 month old child.

One adult patient (case 8) suffered major morbidity and required venesection as a result of overtransfusion.

#### **Case 5 Laboratories should not accept unsuitable samples**

*An elderly male was admitted for investigation of chronic diarrhoea. A blood sample was sent to the haematology laboratory for a full blood count; the laboratory reported the result but queried whether the sample was dilute and requested a repeat. No repeat sample was sent; 6 units of blood were crossmatched and transfused. Post transfusion the patient was polycythaemic, but suffered no clinical ill effects.*

#### **Case 6 Poor sampling technique starts a series of errors**

*A post-operative blood sample was sent from a patient following repair of a fractured neck of femur. The haematology laboratory reported a Hb of 39g/L. The ward sent a nurse to the blood bank with instructions to collect uncrossmatched 'emergency O negative' blood. Because of an earlier refrigerator breakdown, the hospital blood stock was kept in the same refrigerator as blood for issue; the nurse removed 2 units of group O RhD negative blood from stock instead of taking blood designated and labelled for emergency issue. It was later realised that the low Hb level was incorrect due to poor sampling technique and the patient had not required the transfusion.*

#### **Case 7 Do the results match the clinical picture?**

*A male patient (age not given) was transfused with 8 units of red cells on the basis of a Hb of 23g/L. The patient was not bleeding and his clinical condition is not recorded. Post transfusion his Hb level was 188g/L. The cause of the spurious Hb result could not be determined. The patient survived with no ill effects.*

#### **Case 8 Post-transfusion increment should be monitored**

*A female adult patient of small stature was admitted with haematuria and Hb estimation was 63g/L. Four units of red cells were transfused, following which the Hb was 166g/L. A doctor failed to note the post transfusion Hb and prescribed a further 4 unit transfusion. Following this the Hb was 205g/L and the patient was noted to be hypertensive. Venesection was carried out daily for 3 days. The patient survived.*

#### **Case 9 Wrong Hb leads to unnecessary surgery**

*A young woman was admitted as an emergency with acute abdominal pain. A full blood count was done and a low Hb (level not given) was noted. As a result, a provisional diagnosis of ruptured ectopic pregnancy was made; the patient was transfused with 2 units of blood and a laparotomy was carried out. When no evidence of bleeding was found, a repeat sample was sent for full blood count and found to be normal. It was then realised that the first sample had been taken from the 'drip arm'.*

#### **Learning points**

- Procedures for blood sampling must state that samples must not be taken from a 'drip arm'.
- A decision to transfuse must take account of clinical findings as well as laboratory results.
- Unexpected laboratory results should be reviewed and confirmed by a repeat sample. Haematology laboratories should not issue unvalidated results.
- Robust procedures must be in place in all clinical areas for recording telephoned results.
- Blood gas analysers are not suitable for haemoglobin estimation.