Errors in anti-D administration

SHOT does not seek to record errors in anti-D administration (either of omission or commission) due to failure to follow guidelines. However errors due to laboratory grouping errors, patient misidentification or wrong serological reasoning are included. There were 43 reports involving anti-D administration – 8 cases in which anti-D was indicated but either not given or given in an inadequate dose. In one of these cases the BMS issued Hepatitis B immunoglobulin, in error. In 35 cases patients received anti-D which they did not require. In 4 cases the patient was known to have immune anti-D present, 4 patients had delivered RhD negative babies, one case involved anti-D cover for administration of platelets which were, in fact, from a RhD negative donor while in all other cases anti-D was administered to patients who were RhD positive. In most instances this was due to midwives administering anti-D to patients before grouping results were available or to patients who had already been shown to be RhD positive. Routine antenatal prophylaxis was given to three RhD positive patients by the same midwife working in a GP's practice – it was not clear if this simply reflected lack of training/understanding of the antenatal prophylaxis programme. In 8 cases anti-D was administered to the wrong patient because of misidentity of the patient at the time of administration or telephone communication of incorrect results by the laboratory.

Case 15

A series of failures leads to repeated unnecessary administration of anti-D

An antenatal patient underwent routine blood grouping by community midwife. The result, A RhD positive, was written on the patient-held records. Inexplicably, the midwife then wrote "information given re Rh Neg" and made an appointment for routine anti-D prophylaxis. The transfusion laboratory issued anti-D without checking their records for the blood group. Anti-D was administered by the midwife, again without checking records. A further appointment was made for 34 weeks gestation and the same scenario was repeated other than that blood group A pos, appeared on the issue form, but was not noted. Anti-D was given by the same midwife. At delivery, the patient enquired about anti-D at which point previous errors were noted. A number of changes have been implemented in order to reduce the risk of recurrence.

Outcomes

Of the 346 fully analysed cases there were 32 cases of major ABO incompatibility, including 2 cases which were also RhD incompatible and 1 case who also failed to receive irradiated components. There were 19 cases of RhD incompatibility (of which 13/19 errors originated in the laboratory), 18 cases where other red cell antigen incompatible transfusions were given, and 106 incidents which resulted in ABO and RhD compatible transfusions.

The remaining cases comprised 83 cases of failure to provide for special requirements (including 69 non-irradiated, 1 neither irradiated nor CMV negative and 2 not CMV negative), 43 cases of errors in anti-D immunoglobulin administration, 31 cases of an inappropriate or wrong component transfused, and 14 "other". (including administration of expired units, transfusion later than 72 hrs post-crossmatch, incorrect storage during transfer of patient, freezing of red cell units due to incorrect packaging).
There were 3 deaths which may have been related to the adverse event.

Mortality due to the adverse events

Case 16

A spurious Hb result which may have contributed to this fatal outcome

This 92 year old woman was admitted with a gastrointestinal haemorrhage and cerebrovascular accident. A sample drawn from the drip arm gave an Hb result of 81g/L and a transfusion of 4 units of red cells was given. The Hb post-transfusion was 176g/L suggesting that that the pre-transfusion Hb result was spurious. The patient developed cardiac problems and died shortly afterwards. It was felt that the unnecessary transfusion may have contributed to her death.