Errors In and Complications of Paediatric Transfusion: SHOT Reports 2015

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Introduction and Overall Trends

Paediatric reports made to SHOT in 2015 (i.e. reports about patients <18 years of age) are grouped together to bring out specific messages and lessons relevant to this vulnerable group for whom a higher rate of transfusion errors has previously been identified.

Results and Key Messages

Errors

In 2015, the majority of paediatric reports were error-related (112/162, 69.1%), 45/112 (40.2%) originating in the laboratory.

Nearly half the errors (54/112) were incidents of ‘incorrect blood component transfused’ (IBCT), others (20) led to delays in transfusion.

Inappropriate use of adult O D-negative units

In 12 cases of incorrect blood component transfused adult O D-negative emergency units were used inappropriately to resuscitate neonates/infants despite availability of neonatal emergency packs.

Laboratory Errors

These resulted from inadequate neonatal pretransfusion testing or failure to provide phenotyped blood, which in the context of other laboratory errors reported to SHOT suggest the need for increased support and training for laboratory staff.

Transfusion-associated circulatory overload (TACO)

Two deaths occurred possibly related to TACO; a reminder that this complication can occur at any age.

Exchange transfusions

There were 5 reports in babies, with one death of a baby following exchange for haemolytic disease due to missed immunee anti-D. Exchange is an invasive procedure relatively rarely performed; recipients are by definition vulnerable. They require special components with short shelf-life with which staff may be unfamiliar.

A group A baby developed serious clinical deterioration after exchange with group O adult red cells suspended in SAGM (instead of CPD) containing high-titre anti-A (1:512). This was an inappropriate component for exchange.

Transfusion-associated necrotising enterocolitis (TANEC)

Six cases of TANEC were reported (with 3 deaths). Reporting of this complication is encouraged to improve understanding of the association and its frequency in the UK.

Recommendations

- Adult O D-negative units are unsuitable for neonatal emergency use. Dedicated neonatal O D-negative units should be available. Local measures should be in place to help guide staff to select the correct component in emergency situations.
- Particular attention should be provided for laboratory staff training regarding the specification and ordering of components for neonatal exchange in hospitals with neonatal intensive care units.

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