Getting it Right from Getting it Wrong

SHOT 2011 Case Studies

The South East Coast Transfusion Practitioners
& The South East Coast RTC Education Day

“The Journey of Blood”
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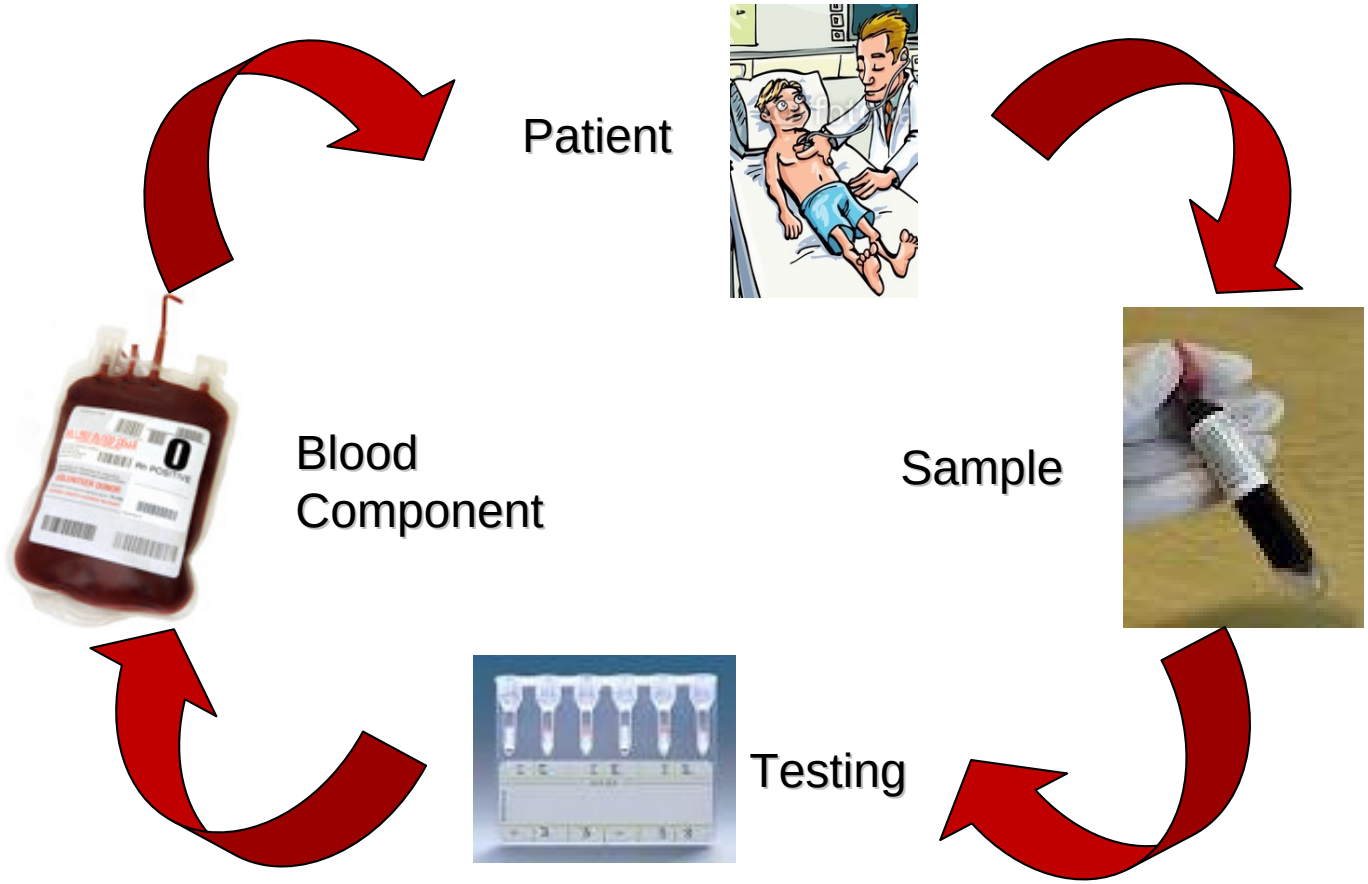
Key Lesson 2011

The key lesson from the
Annual SHOT Report 2011 is:

‘Back to Basics’

Transfusion Loop

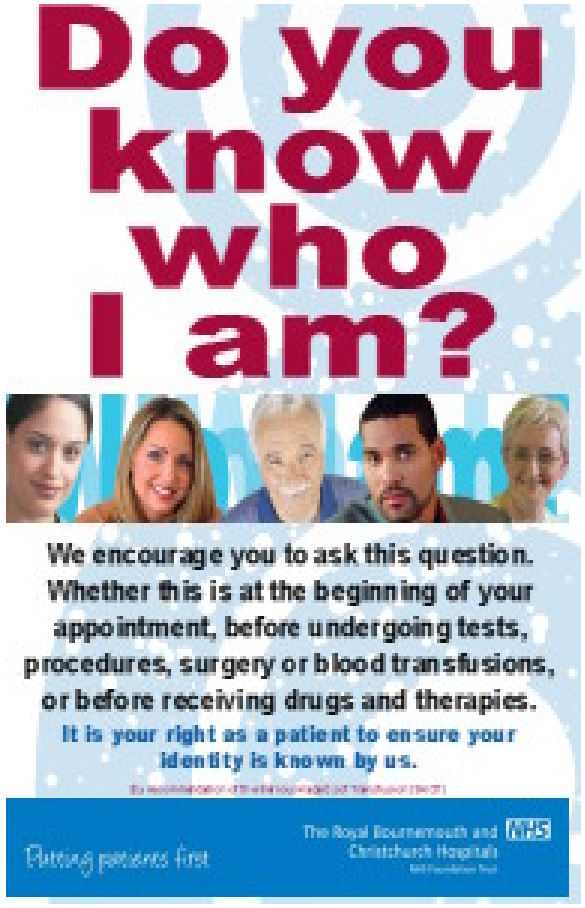


Key Recommendations 2011

Four key recommendations underpinning back to basics:

1. Correct patient identification.
2. Education and competency.
3. Knowledge of transfusion medicine and of prescribing/authorising.
4. Clinical and transfusion laboratory handover.

Key Recommendation 1



- **Correct patient identification** should be a core clinical skill

http://www.transfusionguidelines.org/index.aspx?pageid=982&section=27&publication

Case Study 1

Transposed patient ID during phlebotomy leads to ABO incompatible transfusion

- *Patient A, real blood group O RhD negative, was transfused 2 units of A RhD positive blood during cardiac surgery, because of wrong blood in tube (WBIT) at phlebotomy.*
- *On arrival in ICU he received two more group A units without apparent adverse events.*
- *Following transfusion, the patient showed evidence of haemolysis, with a fall in Hb requiring further transfusions, and rise in bilirubin to 241mmol/L within 6 days*
- *He had an extended stay in ITU.*

Key Recommendation 2

- **Education and competency** in blood transfusion safety remains a key issue in patient safety.
- Competency assessment must be underpinned by an adequate and assessable knowledge base

Case Study 2

Other person's access card

- *A temporary member of staff removed 2 units of red cells from the refrigerator without checking the patient's identifiers or undertaking any checks on the blood component.*
- *The temp was asked to collect the blood by a Staff Nurse, who gave their access card to the member of staff, who was not allowed to collect blood having had no training or competency assessment.*

Key Recommendation 3

- **Knowledge of transfusion medicine and of prescribing/authorising**

  of blood components are essential core requirements for any practitioner (medical and nursing) who prescribes or authorises blood components.

Case Study 3

Haematemesis - excessive Tx leading to TACO

- *A middle-aged woman with known alcoholic liver disease presented with haematemesis and was urgently transfused 7 units of red cells without monitoring the Hb.*
- *The Hb on the previous day was 11.3 g/dL. The patient was not reviewed regularly during transfusion.*
- *Her Hb rose to 16.4 g/dL post-transfusion requiring venesection of 2 units and admission to high dependency unit (HDU) for ventilation because of pulmonary oedema.*
- *She later died of multi-organ failure. It was felt that death was related to the excessive transfusion.*

Key Recommendation 4

- **Clinical and transfusion laboratory handover**

  templates should be improved to include information about diagnosis (particularly haemoglobinopathies), irregular antibodies and special requirements.

Case Study 4

Failure to inform the laboratory of the diagnosis of beta-thalassaemia major

- *A 33 year old woman with beta thalassaemia major was referred from another hospital.*
- *There was no documentation of transfusion special requirements in the referral paperwork*

Checklists

- SHOT recommends the use of a transfusion checklist across the complete transfusion process to ensure correct completion of each step.
- A model template can be found on the SHOT website:

See SHOT Resources

www.shotuk.org

Case Study 5

Failure to check that transfusion was indicated before prescribing

- *A 2 month old baby on the neonatal intensive care unit (NICU) required platelets prior to surgery, but the order for platelets was erroneously made twice.*
- *Following the first transfusion, lab staff noticed the next day that platelets were still available but due to expire at midnight, so informed the ward.*
- *This triggered NICU staff to get the platelets to the ward on the assumption that they were required and a junior doctor was asked to prescribe the platelets.*
- *The transfusion was discontinued when a senior doctor subsequently noticed that the baby was receiving platelets that were not required.*

Additional key messages from the Annual SHOT Report 2011

Key message 1

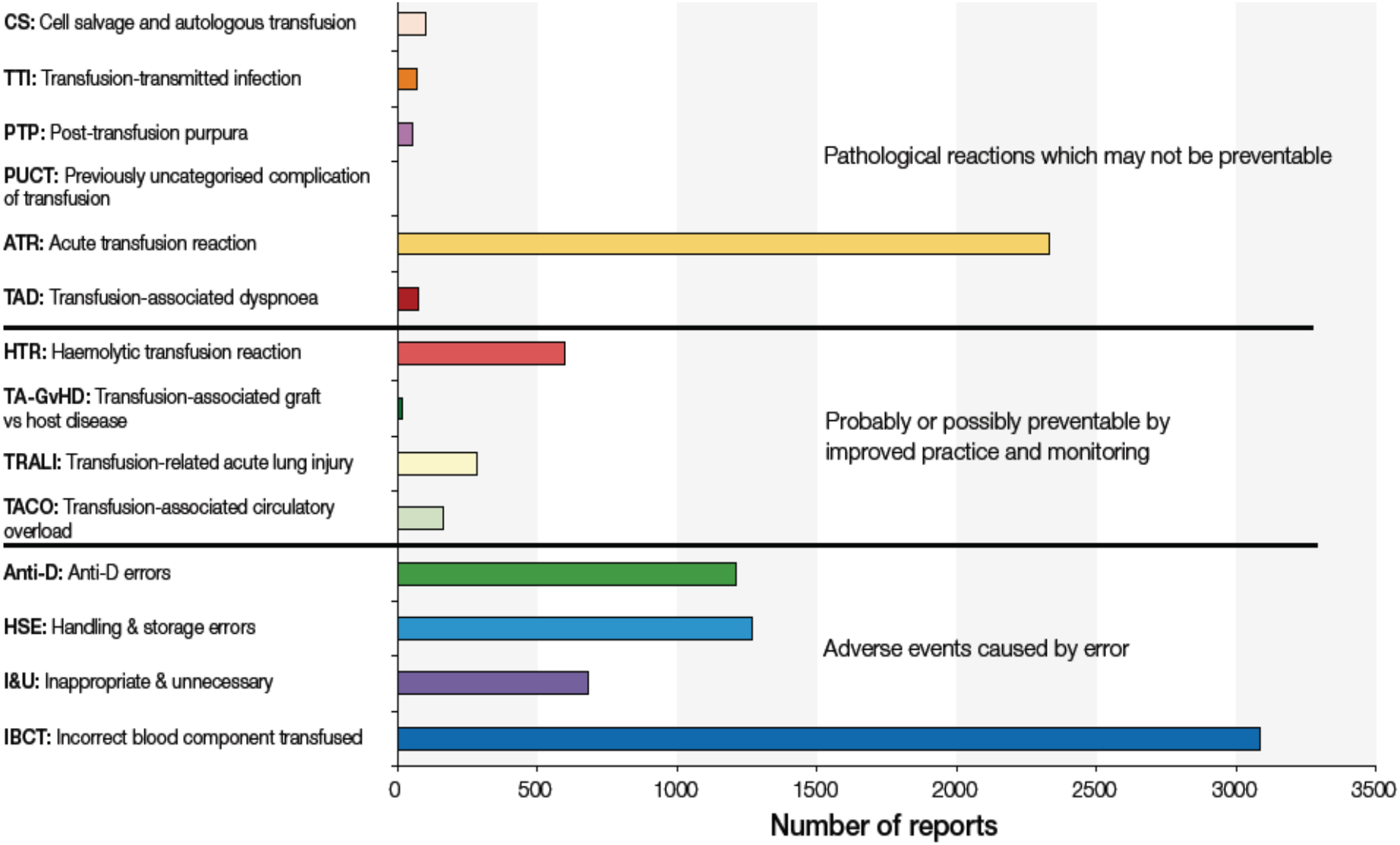
- About half of the cases reported to SHOT are due to preventable mistakes.
- Similarly, most of the serious adverse events reported to the Medicines and Healthcare products Regulatory Agency (MHRA) are also attributable to human error (788/811).

Case Study 6

Wrong sample selected results in patient receiving an ABO-incompatible transfusion

- Due to the wrong sample being selected for testing, a patient was typed as AB RhD positive and transfused 3 units of red cells.
- The patient's actual group was A RhD positive.
- The error was detected when a second group and save sample was processed at a later date.
- The patient suffered no harm.

Cumulative data from SHOT Reports (15 years 1996-2011)



Key message 2

- Laboratory errors increased slightly in 2011 to 217 compared with 205 in 2010.
- There were 7 ABO grouping errors, 4 of which occurred in emergency situations when staff may have been rushed and tempted to take short cuts.

Case Study 7

Incorrect blood group result obtained by manual tube group

- A patient presented with multiple injuries and was initially grouped by manual tube technique as O RhD positive.
- Based on this blood group 4 units of group O RhD negative red cells, 10 group O RhD positive red cells, 4 group AB FFP, 8 group A FFP, 3 group A platelets and 2 group A cryoprecipitate pools were transfused urgently.
- The patient was later found to be group AB RhD positive.

Key message 3

- The presence of anti-D in pregnant women must be carefully interpreted.
- In 7 women anti-D was assumed to be due to prophylaxis when it was in fact immune anti-D.
- The misinterpretation meant that these pregnancies were not followed as closely as they should have been
- This resulted in 6 cases of RhD haemolytic disease of the fetus and newborn (HDFN).

Case Study 8

Failure to follow up a weak positive antenatal antibody screen results in lack of monitoring

- *The laboratory staff were unsure whether a weak positive antibody screen was due to prophylaxis.*
- *Repeat samples were requested but were not received.*
- *As a result further anti-D Ig was issued (correctly, according to guideline), but the pregnancy was not closely monitored.*
- *The mother was reported to have a strong anti-C+D at delivery and the baby was born suffering from HDFN, requiring an exchange transfusion.*
- *The baby died three days later.*

Conclusion

- About half of the cases reported to SHOT are due to **Getting it Wrong**.
- SHOT makes recommendations in each year's Annual SHOT Report to improve practice and help with **Getting it Right**.

Acknowledgements

- SHOT office in Manchester
- Steering Group
- Working Expert Group
- Hospital Transfusion Committees for reporting

Thanks for listening

SHOT Symposium 2013

The next Annual SHOT Report (2012 data) will be launched in July 2013.

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Royal Society of Medicine, London