Up-to-date competency assessments do not prevent transfusion with wrong components (WCT) following laboratory-related errors

Hema Mistry¹, Peter Baker², Rashmi Rook³ and Paula HB Bolton-Maggs¹, ⁴

¹Serious Hazards of Transfusion Office, Manchester, ²Liverpool Clinical Laboratories, Royal Liverpool University Hospital, Liverpool, ³UK Transfusion Laboratory Collaborative (UKTLC), ⁴University of Manchester, UK

Background

Laboratory errors in transfusion practice continue to put patients at risk. It is a regulatory requirement (Blood Safety & Quality Regulations 2005) supported by BSH Guidelines and UKTLC Standards. All staff working in a blood transfusion laboratory must undergo a formal program of practical and knowledge-based competency assessments for the procedures they undertake, which are regularly updated to ensure continued adherence and re-validation.

Aim

To review if laboratory-related wrong component transfused (WCT) errors are more likely to occur with laboratory staff who do not have up-to-date competency assessment compared with staff that do.

Method

Retrospective review of laboratory-related WCT incident reports made to the UK national haemovigilance scheme, Serious Hazards of Transfusion (SHOT), from January 2010 to December 2016 (7 years).

Results

During the 7-year review period 327 laboratory WCT errors were reported:

- In 70% cases (227/327) staff had current competency.
- In 8% cases (27/327) staff did not have current competency.
- In 22% (73/327) competency data was not given.
- WCT errors contributed to 12 ABO-incompatible red cell transfusions. In 10/12 of these incidents staff had an up-to-date competency assessment.

Conclusions

This review shows that staff continue to make errors despite having updated competency assessments. A competency assessment is a ‘snapshot’ in time when a biomedical scientist (BMS) is aware of the assessment and so may not always reflect a real-life laboratory pressurised situation where critical decisions have to be made (Fig 2). Many incident reports describe that interruptions or distractions occurred during critical stages in the transfusion process.

RECOMMENDATIONS

1. All laboratory teams should receive training in managing distractions and be made aware of personal, team and environmental factors that may affect their overall performance, resulting in a mistake.
2. Transfusion laboratories should be sufficiently resourced to allow for timely training and assessments of staff to further reduce errors.

---

Figure 1. Competency assessments in laboratory staff

<table>
<thead>
<tr>
<th>Laboratory staff competency assessed?</th>
<th>Number of reports</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>227 (70%)</td>
</tr>
<tr>
<td>NO</td>
<td>27 (8%)</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>73 (22%)</td>
</tr>
</tbody>
</table>

Figure 2. Awareness of different pressure factors

Errors: Organisational factors, Personal factors, Team factors

---

www.shotuk.org  @shothv1