Seventeen years’ analysis of adverse events associated with anti-D Immunoglobulin (Ig)

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Background

Prophylaxis with anti-D immunoglobulin (anti-D Ig) has significantly reduced the morbidity and mortality from haemolytic disease of the newborn in D positive infants born to D negative women, yet sensitisation continues to occur

SHOT (Serious Hazards of Transfusion) is the UK professionally led haemovigilance scheme, taking reports of adverse events associated with transfusion and feeding back the lessons learned from them in an annual report

Anti-D Ig Cumulative errors 1998 – 2014

<table>
<thead>
<tr>
<th>Type of event</th>
<th>No. Cases</th>
<th>Midwife / Nurse</th>
<th>Laboratory</th>
<th>Doctor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omission or late administration of anti-D Ig</td>
<td>1363</td>
<td>1187</td>
<td>122</td>
<td>54</td>
</tr>
<tr>
<td>Anti-D Ig given to D positive woman</td>
<td>355</td>
<td>202</td>
<td>138</td>
<td>15</td>
</tr>
<tr>
<td>Anti-D Ig given to woman with immune anti-D</td>
<td>165</td>
<td>82</td>
<td>80</td>
<td>3</td>
</tr>
<tr>
<td>Anti-D Ig given to mother of D negative infant</td>
<td>96</td>
<td>15</td>
<td>81</td>
<td>0</td>
</tr>
<tr>
<td>Anti-D Ig given to wrong woman</td>
<td>70</td>
<td>66</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Wrong dose of anti-D Ig given</td>
<td>99</td>
<td>37</td>
<td>58</td>
<td>4</td>
</tr>
<tr>
<td>Anti-D Ig given when expired, out of temperature control or wrongly labelled</td>
<td>89</td>
<td>43</td>
<td>44</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>2237</td>
<td>1632</td>
<td>524</td>
<td>81</td>
</tr>
</tbody>
</table>

Key Findings

- 61% of cases relate to late administration or omission of anti-D Ig
- 31% of cases describe inappropriate administration of anti-D Ig
- 73% cases identified midwives (and nurses) as making the primary error
- 23.5% cases originated in the laboratory
- 3.5% cases involved medical staff, often at senior level

Top 5 System Failures identified by SHOT

- A lack of communication between hospital and community midwifery teams, and between both midwifery teams and the laboratory
- Assumption that someone else is picking up the issue, or has done their job correctly, and a failure to take responsibility for the woman
- Manual transcription of blood grouping results onto notes, care plans and discharge sheets in the clinical area persists despite being repeatedly highlighted by SHOT as poor practice
- A demonstrable lack of knowledge and training, compounded by the holding of anti-D Ig stocks in the clinical area with little oversight by the laboratory
- Decision-making, issuing and administration of anti-D Ig without reference to blood grouping results or electronic information management systems, in both the laboratory and clinical area

Top 5 Good Practice Points identified by SHOT

- It does not really matter whether staff follow BCSH, NICE or RCOG guidance, or even a combination of all three as long as there is a robust, consistent Trust policy in place agreed by all stakeholders
- Current blood grouping and antibody screen results must be referred to when making decisions whether to issue or administer anti-D Ig
- If there is doubt about the D type, or whether detectable anti-D is immune or prophylactic, then anti-D Ig prophylaxis should be continued until the issue is resolved
- All healthcare professionals involved in the issue and administration of anti-D Ig must complete the anti-D modules in the Learn Blood Transfusion e-learning programme www.learnbloodtransfusion.org.uk
- Anti-D Ig must be made readily available for administration to women when they present, rather than asking them to return for it at a later date

SHOT Key Recommendation around Anti-D Ig

There is no need for a ‘confusion’ of differing guidelines - hospitals and trusts should develop their own agreed protocol for administration of anti-D Ig, with multidisciplinary engagement from the laboratory, midwives, gynaecologists and obstetricians, which ensures that a consistent approach is adopted. These guidelines must also be adopted by other services with which women may come into contact following sensitising events, including primary care and emergency departments

To assist in standardisation of the process, SHOT has developed a flowchart for the administration of anti-D Ig, now formally adopted by both BCSH and the RCOG, and the SHOT Office will produce a bespoke version for a particular hospital on request to: shot@nhsbt.nhs.uk

www.shotuk.org