Can the origin of anti-D be determined using serological methods?

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What was the aim and why was the study important

- As you know red cross issue guidelines to assist with distinguishing between immune and prophylactic anti-D using a range of criteria
- This study considered if there was a serological method that could help to distinguish between them
- We considered this important as it may assist for laboratories, Doctors and patients.
What was done

› 273 prophylactic and immune samples were tested, known to contain anti-D

› Testing was carried out using LISS-IAT, PEG-IAT and enzyme-IAT methods

› LISS-IAT was used as the initial method with the difference in agglutination between this and both PEG-IAT and enzyme-IAT noted
Results

- A one step change could be due to issues such as reading technique
- A two step increase in agglutination was seen as important
  - Found in immune group with enzyme-IAT BUT NOT with PEG-IAT
  - NOT found with either reagent with the prophylactic samples
- Specificity was 100% with both PEG-IAT and enzyme-IAT so a positive result is a very good indicator of anti-D being immune
- Sensitivity was only 50% with PEG-IAT and 58% with enzyme-IAT and so a negative result does not rule out anti-D
Results summary

Passive anti-D

<table>
<thead>
<tr>
<th>Steps of change in agglutination</th>
<th>% of samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 decrease</td>
<td>10</td>
</tr>
<tr>
<td>no change</td>
<td>70</td>
</tr>
<tr>
<td>1 increase</td>
<td>10</td>
</tr>
<tr>
<td>2 increase</td>
<td>10</td>
</tr>
</tbody>
</table>

Enzyme-IAT vs PEG-IAT

Immune anti-D

<table>
<thead>
<tr>
<th>Steps of change in agglutination</th>
<th>% of samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 decrease</td>
<td>10</td>
</tr>
<tr>
<td>no change</td>
<td>60</td>
</tr>
<tr>
<td>1 increase</td>
<td>30</td>
</tr>
<tr>
<td>2 increase</td>
<td>10</td>
</tr>
</tbody>
</table>

Enzyme-IAT vs PEG-IAT
How results can be used

- Used to help confirm immune as one of the further investigation tests but not the only test
  - Not sensitive enough
  - Manual test
Thank you

- I would like to thank my Masters research supervisors and co-authors
  
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