Appropriate use of Platelets across blood groups

Although overall demand for platelets has recently reduced, requests for A D-negative platelets remains high and has resulted in shortage alerts. This may be caused by hospitals holding Group A platelets as stock in preference to group O platelets to reduce the risk of haemolysis in non-O recipients from anti-A antibodies.

There is however evidence of potential harm such as an increase in transfusion reactions and refractoriness from infusion of mismatched ABO platelet groups, particularly in patients who are regularly transfused.

The purpose of this document is to encourage hospitals to develop practices which maximise the use of ABO and D identical platelets, especially to patients who require regular platelet support.

The use of platelets of a different group should be limited to patients where the blood group is unknown, when specific requirements are necessary or to prevent wastage due to time expiry.

Recommendations

When ordering standard platelets for patients of any group, ABO and D identical should always be requested.

If transfusion across ABO groups is required, platelet units tested and negative for high titre haemagglutinins and non group O platelets are associated with a lower risk of haemolysis. Pooled platelets suspended in platelet additive solution (PAS) would also be expected to reduce the risk of haemolysis.

D-negative girls or women of childbearing potential should receive D-negative platelets. If unavailable D-positive platelets can be given with anti-D prophylaxis.

For D-negative recipients as follows - boys under 18 years of age, those who already have anti-D antibodies, and transfusion-dependant adults, the platelets of choice are D-negative. D-positive platelets should be given if D-negative platelets are unavailable or to prevent wastage of D-positive components. Anti-D prophylaxis is not required for these recipients.

Platelet selection by recipient ABO group

<table>
<thead>
<tr>
<th>Recipient Group</th>
<th>O</th>
<th>A</th>
<th>B</th>
<th>AB</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Choice</td>
<td>O</td>
<td>A</td>
<td>B</td>
<td>AB</td>
</tr>
<tr>
<td>2nd Choice</td>
<td>A or B</td>
<td>AB or B* or O*†</td>
<td>AB or A* or O*†</td>
<td>A* or B* or O*†</td>
</tr>
</tbody>
</table>

* components tested negative for high-titre anti-A and/or anti-B and those suspended in PAS should be used
† the use of group O apheresis platelets for non group O neonates and children is not recommended because of the risk of haemolysis
http://www.b-s-h.org.uk/guidelines/guidelines/transfusion-for-fetuses-neonates-and-older-children
http://www.b-s-h.org.uk/guidelines/guidelines/use-of-platelet-transfusions/

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