**Executive Summary**

**National Haemovigilance Office**

**Annual Report January-December 2000**

Haemovigilance has been defined as:

“A set of surveillance procedures, from the collection of blood and its components to the follow-up of recipients, to collect and assess information on unexpected or undesirable effects resulting from the therapeutic use of labile blood products, and to prevent their occurrence or recurrence”

The National Haemovigilance Office (NHO) was established with the remit of receiving, collating and following up reports from hospitals, healthcare institutions and General Practitioners of adverse reactions/events relating to the transfusion of blood components/products and providing feedback information to reporters as appropriate. The scheme is a confidential and anonymised system, similar to that in place for monitoring drug safety (Pharmacovigilance) and is dedicated to the improvement of practice within the transfusion chain at all stages from donor to recipient. Reporting of incidents is seen as part of the professional responsibility of all Health Care professionals.

**Incidents:**

**January – December 2000**

During the one-year period 1st January to 31st December 2000, there were 85 confirmed reports received and reviewed by the NHO.

The confirmed reports received have been categorised as follows:

**Table 1**

<table>
<thead>
<tr>
<th>Category</th>
<th>IBCT</th>
<th>A/A</th>
<th>AHOSTR</th>
<th>TACO</th>
<th>TTI</th>
<th>DHTR</th>
<th>Unusual</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidents</td>
<td>31</td>
<td>22</td>
<td>14</td>
<td>8</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>85</td>
</tr>
<tr>
<td>Percentage</td>
<td>37%</td>
<td>26%</td>
<td>17%</td>
<td>9%</td>
<td>8%</td>
<td>2%</td>
<td>1%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Legend:**

- **IBCT** Incorrect Blood Component/Product Transfused.
- **A/A** Severe Acute Anaphylactoid or Anaphylactic Reaction.
- **AHOSTR** Acute Haemolytic or Other Severe Acute Transfusion Reaction.
- **TACO** Transfusion Associated Circulatory Overload.
- **TTI** Transfusion Transmitted Infection.
- **DHTR** Delayed Haemolytic Transfusion Reaction.
There were no reports received in the categories of:
- Post Transfusion Purpura, (PTP)
- Transfusion Related Acute Lung Injury (TRALI)
- Transfusion Associated Graft versus Host Disease (TAGvHD).

**Denominator:**
In an effort to put the following data in context, an analysis of the number of units issued in this period was also carried out. These figures do not account for units discarded or wasted.

**Table 2: Number of units issued by Irish Blood Transfusion Service (IBTS) January – December 2000**

<table>
<thead>
<tr>
<th>Component</th>
<th>Total Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Cells</td>
<td>124,291</td>
</tr>
<tr>
<td>Platelets</td>
<td>41,207</td>
</tr>
<tr>
<td>Fresh Frozen Plasma</td>
<td>24,811</td>
</tr>
<tr>
<td>Cryoprecipitate</td>
<td>1,848</td>
</tr>
<tr>
<td>Whole Blood</td>
<td>506</td>
</tr>
<tr>
<td>Combined total</td>
<td>192,663</td>
</tr>
</tbody>
</table>

**Incorrect blood components transfused**
- Incorrect Blood Component Transfused (IBCT) was the most common adverse event/incident reported. There were 31 cases of IBCT, which included three ABO incompatible transfusions, fortunately none were associated with mortality. This highlights the need for attention to guidelines and extreme care when sampling blood pre–transfusion and issuing/administering blood components.

Five of thirty-one incorrect components transfused were due to a failure to request Cytomegalovirus (CMV) Antibody negative blood, highlighting the need to accurately complete the prescription and request forms. Furthermore, a secure system to ensure that patients in shared care receive the appropriate blood in participating hospitals is recommended.

Four of the thirty-one incorrect components transfused were due to failure to communicate the correct haemoglobin results between laboratory and clinical staff. It is recommended that hospitals put in place automated transfer systems of laboratory information to clinical areas to avoid such errors.

In twenty of the thirty-one IBCT cases (64.5%) the bedside checking procedure failed. The final bedside check is vital in preventing transfusion error and is the last opportunity to detect an identification error. The importance of positive patient identification at the bedside using three minimum identifiers, both at the time of sampling and administration is highlighted.

In ten of the thirty-one IBCT cases (32%) the error occurred in the hospital blood bank. It is recommended that the laboratory develop procedures to build in checks for all critical points in transfusion testing.

**Severe Anaphylactoid & Severe Acute Transfusion Reactions**
- Together these two categories accounted for 36 (42%) reactions reported.

- The occurrence of anaphylactoid reactions, particularly with Fresh Frozen Plasma (FFP), emphasises the need to only transfuse FFP when clinically indicated. The NHO issued an information leaflet drawing attention to this.

Although all red cell and platelet concentrates are leucodepleted pre-storage by the IBTS since November 1999, the occurrence of severe acute non-haemolytic transfusion reactions reported suggest that pre-storage leucodepletion may reduce, but not abolish, these reactions.

It is particularly important to fully investigate severe acute symptoms occurring during the transfusion in an effort to identify the cause of the symptoms. In a number of cases reported of anaphylactoid and severe acute transfusion reactions, the diagnosis was not clear and full serological/bacterial culture of the patient and packs was not undertaken. In these situations the transfusion should be discontinued and not recommenced until a full documentation/serological investigation and medical review has been undertaken.

**Transfusion Associated Circulatory Overload**
- The risk of volume overload and ensuing respiratory distress is increased with the very small, elderly, cardiac or respiratory compromised patient. There were 8 reported cases of circulatory overload. Careful attention should be paid to the patient's fluid balance prior to transfusion of any blood component. In those patients considered to be at greater risk, the transfusion should be administered slowly and the patient must be closely monitored for early signs and symptoms.

**Suspected Transfusion Transmitted Infection**
- There were nine suspected cases reported, two of which did not progress as subsequent investigation showed no evidence of infection in the recipient.

In four of the seven cases transfusion has been definitively excluded as the cause of the infection. In one case transfusion could not be definitively ruled out as the source of the infection as one donor could not be traced. In the two remaining cases investigations are ongoing into the IBTS donors at the time of reporting.

This report identified similar findings to other reports with a greater incidence of reported IBCT (37%) compared with reported Transfusion Transmitted Infection (8%).

There were no incidents reported of transfusion transmitted bacterial infection.

**Delayed Haemolytic Transfusion Reaction**
- There were two cases of delayed haemolytic transfusion reactions as a result of transfusing Rhesus D positive blood to Rhesus D negative patients during massive haemorrhage.

The need to conserve supplies of Rhesus D negative blood for pre menopausal women and the difficulties of provision of adequate amounts of Rhesus D negative blood are likely to lead to an increase of the development of anti-D antibodies and the possibility of increased incidence of delayed haemolytic transfusion reactions in the future. Hospitals should have policies to cover switching patients from Rhesus D negative to Rhesus D positive blood when stocks are low or when massive bleeding is anticipated.