Introduction

Frozen plasma (FP) is a blood product that is commonly transfused in the operating room. Multiple guidelines have been published to encourage the judicious use of blood products, including FP. Like other blood products, transfusion of FP carries risks and should be transfused only when the likely benefits outweigh the risks. A retrospective audit of intraoperative transfusion of FP for craniofacial and ‘other’ types of surgeons at our institution found that the majority of FP use was not in accordance with published guidelines.1

As a follow up to the audit, we explored reasons why FP transfusion guidelines are not followed using an anonymous paper based survey of staff anesthesiologists and clinical fellows at our institution.

Methods

The survey assessed known barriers to compliance with clinical guidelines, namely knowledge (awareness and familiarity) and attitudes (agreement with content, expectancy of desired outcome, inertia against or motivation to change practice) using a framework published by Cabana et al.2

The first part of the survey investigated attitudes and knowledge of transfusion guidelines. The second part used two case scenarios to provide additional insight into the reasons for physicians’ FP transfusion practices.

Case 1

A 12-year-old child with neuromuscular scoliosis undergoing posterior spinal fusion surgery, with ongoing, active bleeding during placement of the pedicle screws.

Case 2

A 12-year-old child with primary hyperplastic polyps, requiring resection of the polyp during placement of endoscopic pedicle screws.

The results of this survey, which confirmed the original audit, showed a low threshold for FP transfusion that was often not in accordance with published guidelines. Reasons for this are multifactorial. There appeared to be a gap in respondents’ knowledge of published transfusion guidelines, even for those who indicated that guidelines were important. A significant number would knowingly administer FP, particularly in Case 1, because they believed it was necessary to minimize overall perioperative exposure to blood products, includi
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Discussion

The survey assessed known barriers to compliance with clinical guidelines, namely knowledge (awareness and familiarity) and attitudes (agreement with content, expectancy of desired outcome, inertia against or motivation to change practice) using a framework published by Cabana et al.2 The first part of the survey investigated attitudes and knowledge of transfusion guidelines. The second part used two case scenarios to provide additional insight into the reasons for physicians’ FP transfusion practices.

Case 1

A 12-year-old child with neuromuscular scoliosis undergoing posterior spinal fusion surgery, with ongoing, active bleeding during placement of the pedicle screws. The estimated blood loss was approximately two-thirds of total blood volume. The most recent hematocrit (Hct) was 32%. Transfusion guidelines (MIPHBT/885/09) have been used with an anticipated 20-45 minute wait time.

Case 2

A 12-year-old child with primary hyperplastic polyps, requiring resection of the polyp during placement of endoscopic pedicle screws. The estimated blood loss was 0%. Transfusion guidelines (MIPHBT/885/09) have been used with an anticipated 20-45 minute wait time.

Results

66% (24/36) of the respondents agreed or strongly agreed that published transfusion guidelines are relevant to their practice.

18/36 (50%) and 6/36 (17%) of respondents in the first and second cases, respectively, would transfuse FP, despite no indication to do so.

Table 1. Number (%) of respondents who would transfuse FP against guidelines and agreed or strongly agreed with the following statements:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Case 1</th>
<th>Case 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>FP transfusion in necessary at this time to prevent development of a coagulopathy</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>FP transfusion in necessary at this time to maintain normal perioperative exposure to blood products</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Coagulopathy at this time would be consistent with my practice guidelines and there is no evidence or reason to change</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 2. Number (%) of respondents who would transfuse FP despite pre-existing practice guidelines and agreed or strongly agreed with the following statements:

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<thead>
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References