Massive Haemorrhage Regional Audit

Results from December 2011 to February 2012
Cases

- 195 cases included from 17 hospitals (a further 8 hospitals had no activations during this time period)
- Awaiting data/not submitted from 3 hospitals
- 3 unable to participate- staffing constraints

- 5 paediatric cases also reported (not included in this data)
- Hospitals had a range of 1 to 45 cases
No. cases submitted by hospital (December, January and February)
When?

Month of haemorrhage

Time of Haemorrhage

Diagram showing distribution of haemorrhage months and times.
Emergency or elective?

- Emergency: 173
- Elective: 19
- Unknown: 3
Where they presented

- Emergency Dept: 60
- Theatre: 48
- Labour ward: 36
- Ward: 31
- Critical care: 11
- Endoscopy: 6
- Other: 2
- Unknown: 1
Pathway activated?

Was the pathway activated

- Yes: 170
- No: 25

Was the lab aware?

- Yes: 179
- No: 10
- Unknown: 6
Grade of person activating

[Diagram showing different grades and their counts.]

- Consultant: 47
- Speciality Doctor: 8
- Spr/Middle grade: 21
- Foundation Doctor: 9
- Senior Nurse/Midwife: 19
- Nurse Midwife: 10
- BMS: 10
- Unknown: 31
- not answered: 9
Department of activating person

![Bar chart showing the distribution of departments activating persons. Emergency medicine has the highest count with 52, followed by Anesthesiology with 41, Obstetrics and Gynecology with 22, Medicine with 9, Gastroenterology with 7, Surgery with 16, Opthalmology with 5, Unknown with 8, Other with 8, and Not answered with 27.]
Presentation of bleed
Tranexamic Acid Use

- 16% cases used tranexamic acid. Used in <20% trauma cases (only 3 of 16)
  - Of the 16% (66% of these had it in first 3 hours - unknown in 28%)
  - 14 used as 1g bolus then 1g over 8 hour (6 unknown dosing)
Cell salvage

- Used in 27 cases (unknown in 60)
- 200mls to 7600mls (2 cases insufficient to process)
- 10 hospitals used cell salvage
# Product use

<table>
<thead>
<tr>
<th></th>
<th>No. cases used</th>
<th>mean</th>
<th>Total no. units</th>
<th>Range</th>
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</thead>
<tbody>
<tr>
<td>O neg</td>
<td>52 (51)</td>
<td>2.5</td>
<td>129</td>
<td>1 to 10</td>
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<tr>
<td>Red Cells</td>
<td>169 (6)</td>
<td>7.3</td>
<td>1240</td>
<td>1 to 40</td>
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<tr>
<td>Platelets</td>
<td>114 (11)</td>
<td>1.8</td>
<td>204</td>
<td>1 to 7</td>
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<tr>
<td>FFP</td>
<td>138 (10)</td>
<td>6</td>
<td>827</td>
<td>1 to 28</td>
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<tr>
<td>Cryoprecipitate</td>
<td>28 (27)</td>
<td>3.1</td>
<td>87</td>
<td>1 to 10</td>
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## Product Wastage

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<th>No.cases</th>
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<td>Red Cells</td>
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<tr>
<td>Platelets</td>
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<td>Cryo</td>
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<td>2</td>
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<td>No. Wasted platelets</td>
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<td>University Hospital Aintree</td>
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<tr>
<td>CMFT</td>
<td>27</td>
<td>2</td>
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<tr>
<td>Royal Oldham</td>
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<tr>
<td>Royal Bolton</td>
<td>16</td>
<td>4</td>
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<tr>
<td>Wythenshawe</td>
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<tr>
<td>Royal Blackburn</td>
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<tr>
<td>Glan Clywd</td>
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<tr>
<td>North Manchester General</td>
<td>11</td>
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<tr>
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<tr>
<td>University Hospitals of Morcambe Bay</td>
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<tr>
<td>Royal Liverpool</td>
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<tr>
<td>Wrightington, Wigan and Leigh</td>
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<tr>
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<tr>
<td>Preston Royal</td>
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<tr>
<td>East Cheshire</td>
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Wastage by Hospital
Adjunct and risk factors

Adjuncts

- PCC (4.6%)
- Fibrinogen Concentrate
- rVII (3%)
- Protamine (0.5%)

Risk factors

- Warfarin
- Aspirin
- Clopidogrel
- Heparin
- LMWH
- Congenital bleeding disorder
- Acquired bleeding disorder
- Liver disease
Afterwards........

HDU/ITU
- 118 admitted to critical care (60.5%). Unknown for 5 patients
- Lab unaware of stand down in 29% cases
Survival

- 24 hours = 81.5% survival
- 30 days = 63% survival
Appropriate Activation?

- 97 appropriate (49.7%)
- 68 not known (34.9%)
- 30 inappropriate (15.4%)
Learning Points as a Region?

• increase use of Tranexamic acid.

• Laboratory still not receiving communication about progress
Questionnaire

- 18 responses on questionnaire
Would you participate again?
Comments........

- Missing info – Gender, estimated blood loss, desmopressin use, haem cons. informed

- Proforma not matching the spreadsheet, needs to capture all info. More input from clinicians involved in management

- Changes- spreadsheet big with lots of no boxes, 30 day survival “a lot of work”, age calculator inaccurate.
Proforma not matching spreadsheet
• Meaning of “wastage” (product mismanagement or product not used)
• Size of spreadsheet/not user friendly
• Blood results- (difficult to collect, difficult to analyse)
• Age calculator
• Poor documentation re: pathway activation
• “slow bleed” patients
Problems analyzing

- Getting meaningful data out of blood results and time to product arrival
- Individual trusts made slight changes to spreadsheet (problem combining data then)
- A lot of “unknown” answers (very variable depending on trust/hospital)
Should other information be included?

- Gender
- Desmopressin use
- Haem cons. Informed?
- ?info on what was ordered/requested
- Estimated blood volume/amount lost
- Procedures to stop bleed?
Data collection on results and time to product arrival

Any Ideas?

Could person collecting data calculate time to first products arriving from activation time?
How do we approach cases that have already had products?

If collecting results do we need them all?
Is there a way to standardise better?
Thank you!