FATE OF O D NEG RED CELLS

In the NE RTC Region
30th Jan – 12th Feb
20th Feb – 5th Mar 2017
BACKGROUND

- Proportionate rise in demand
- Recommendations around 2-sample rule
- Reorganisation of pathology services
- Increasing numbers of allogeneic BMTs
- Protocolisation of major haemorrhage management
- Increasing need in the haemoglobinopathy population

- Occasional supply alerts
- Possibility of differential pricing
METHODS

• Collection of the fate of each O D neg red cell unit transfused in the NE&Cumbria over a four week period:
  • 30th Jan – 12th Feb
  • 20th Feb – 5th Mar 2017
• Patient sex and age
• Wastage data

• O D neg proportion in each hospital / Trust population
METHODS

- Snap survey accessed via link
RESULTS (A)

- Survey A: data on 820 units returned
- Average monthly issue in NE region over year to Jan 2017 – 947
  - 4-weekly average therefore 855
  - 95.9% (estimated) capture
- Survey B: denominator of 20457 G&S
RESULTS (A)
RESULTS (A)

Units by Sex

- Male: 388, 47%
- Female: 432, 53%
RESULTS (A)

Blood Groups of Unit Recipients

- O+: 206 (25.1%)
- O-: 479 (58.4%)
- A+: 46
- A-: 33
- B+: 10
- B-: 19
- AB+: 4
- AB-: 23
- Not resolved: 0
RESULTS (A)

Blood Groups of Unit Recipients

- **Group O**: 685 (83%)
- **Non Group O**: 112 (14%)
- **Unresolved**: 23 (3%)
Massive haemorrhage pack, 90, 11%
Infant / neonate under 1 year old, 43, 5%
O negative patient, 457, 56%
Transfused to avoid time expiry (i.e. Transfused across groups), 83, 10%
Phenotype / requirement unavailable (i.e substitution), 87, 11%
Concessionary Issued, 3, 0%
Other, 3, 0%
ABO Incompatible Allogeneic Stem Cell Transplant, 29, 4%
Wasted, 25, 3%

Fate of O Neg Units
RESULTS (A)

Wastage Category

- 15, 60%
- 10, 40%

- Time Expired
- Out of Temp Control
RESULTS / COMPARISON (A)

All O D- results from Survey

- O-patient: 57.7%
- ABO mismatch BMT/SCT: 2.7%
- Solid Organ transplant: 0.0%
- Special Requirements: 7.0%
- Massive Haemorrhage: 8.8%
- Correct group not available: 3.1%
- Transfused to avoid timex: 12.7%
- Time-expiry: 3.2%
- Out of temperature control: 1.2%
- Other: 3.7%

Fate of O Neg Units

- O negative patient, 907, 94%
- AB Incompatible Allogeneic Stem Cell Transplant, 20, 4%
- Maternal haemorrhage, 96, 11%
- Transfused to avoid expiration due to transfused across groups, 76, 10%
- Transfusion to female candidates, 5, 0.6%
- Concomitant issue, 5, 0.6%
- Infant / neonate under 1 year old, 43, 5.5%
- Transfusion to female candidates, 5, 0.6%
- Other, 3, 0.3%

BSMS Q4 2015
INTERNATIONAL COMPARISON (A)

- Australia (ARCBS)
- 5 weeks in 2015
- 6387 units
- 47% into Gp O D Neg
- 17.4% pheno / special req
- 24.5% TIMEX
- 7.9% wastage

Hirani, R. et al. Transfusion 2017(57):1254-1261
INTERNATIONAL COMPARISON (A)

- Ontario (TRUST database)
- April 2002-Mar 2014
- 314,968 all transfusions
- 8.9% O into non-O
- 23.7% pheno / special req
- 10% NICU
- 4.2% trauma
- TIMEX 2.5%

RESULTS (B)

- Survey B:
  - Overall O D Neg: 8.8%
  - Range 7.5 – 10.7%
RESULTS / COMPARISON (B)

Table 1 provides a summary of the mean distributions of ABO and RhD types across England, Northern Ireland and Wales. Table 2 further breaks the distribution of ABO and RhD types by regional transfusion committees (RTCs) in England and North Wales.

### Table 1: Blood group distributions within national regions

<table>
<thead>
<tr>
<th>O+</th>
<th>O-</th>
<th>A+</th>
<th>A-</th>
<th>B+</th>
<th>B-</th>
<th>AB+</th>
<th>AB-</th>
<th>Sample size</th>
<th>Responses</th>
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### Table 2: Blood group distributions within RTC regions

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1 Of which, 3 were from North Wales

BSMS (2008)
CONCLUSION

• Practice in the NE RTC region is comparable to the rest of England
• Wastage level appears to be good overall
• Slightly higher substitution rate
• Higher MHP use
• Still space for improvement (10% TIMEX use)

• Higher O D neg proportion in the NE&C population – possibly falling
THANKS

- TLMs, BMSs, TPs, HTCs, all other contributors
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