2018 Survey of Group O D Negative Red Cell Use
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Background

The balance between supply and demand of O D negative red cells remains a challenge for almost every blood service worldwide.

Survey of Group O D Negative Red Cell Use

The focus on the 2018 survey of O D negative red cells use was to ascertain the fate of all O D negative red cells issued to NHS hospitals covering a defined two-week period.

193 Hospitals participated

6287 O D negative units were issued

5343 O D negative units were fated

Key findings of 2018 survey

59.3% of O D negative red cells were transfused to O D negative patients

16% of the total number of units were transfused in an emergency (794/4970)

12.6% of O D negative red cells were transfused to avoid wastage due to time expiry

5% of O D negative red cells were wasted

6% of O D negative red cells were transfused in an emergency to males and females > 50 years

31% of sites do not have a policy to give O D positive red cells to unknown males and females > 50 years

10.8% of O D negative red cells were used as a substitution by transfusion laboratories

OD negative stockholding > 12.5%: 46% of sites in 2010

64% of sites in 2018
Standards

Audit standard 2018 Survey observation

Standard statement 1:
O D negative red cells should be primarily transfused to O D negative recipients and usage as a substitution should be kept to a minimum

Survey observation:
59.3% (2946/4970) of O D negative red cells are transfused to O D negative patients

Standard statement 2:
O D negative red cells should be used as a substitution only in the absence of appropriate group specific or O D positive red cell units

Survey observation:
10.8% (538/4970) of O D negative red cells were transfused as a substitution made by hospital laboratories. Approximately half (5%, 247/4908) of those needs could have been met by suitable O D positive red cells

Standard statement 3:
In an emergency it is acceptable to use O D positive red cells for adult males and females >50 years old who are D negative (no anti-D detected) and for those adult males and females >50 years old whose D status is unknown

Survey observation:
10% (504/4970) of O D negative units of red cells were transfused to women aged over 50 years of age and adult males

Standard statement 4:
Hospitals do not routinely stock or use more than 12.5% of all red cells as group O D negative

Survey observation:
Median O D negative red cell stock was 13%

Standard statement 5:
O D negative red cell wastage should be no more than 4%

Survey observation:
5% (252/5343) of the fated units were wasted due to either time expiry (143/252) or out of temperature control (109/252)

Standard statement 6:
Hospitals should monitor the number of units of O D negative red cells that are transfused to non-O D negative patients to avoid time expiry. Appropriate adjustments must be made to stocks to minimise this practice

Survey observation:
12.6% O D negative red cells were transfused to avoid wastage due to time expiry
Hospitals should review:

- Local transfusion policies and ensure they include recommendations for the use of O D positive red cells for unknown/O D negative adult male patients and female patients of non-childbearing potential in an emergency.

Hospitals should monitor:

- Transfusion of O D negative red cells to non-O D negative patients to avoid time expiry: A high % of O D negative red cells to non-O D negative individuals could indicate overstocking and stock adjustment may be required.

- The number of days stock held before transfusion (Issuable Stock Index - ISI): aim for an ISI for O D negative of 3-4 days.

- Use of O D negative red cells in emergencies (including (air) ambulance): appropriate use and wastage of red cells should be audited regularly. The number of units carried in pre-hospital care boxes should be adjusted accordingly.

- Use of O D negative red cells held in satellite fridges: consider reducing the number of units held. O D negative red cells kept in satellite fridges must be rotated to avoid wastage.

- Use of O D negative red cells held in remote issue fridges: regularly review the stocks of O D negative red cells in each fridge. All stock held in remote fridges should be rotated back into stock with enough shelf life remaining to allow the units to be used appropriately before time expiry. Adequate number of O D positive red cells must be kept to avoid unnecessary use of O D negative as a substitution.

Hospitals should aim for:

- O D negative stockholding of less than 12.5%.

- 10%-20% of O D negative stock to be K positive to support stability of the supply chain.

- Stock sharing if possible (private hospitals, smaller NHS hospitals and between sites of the same Trust).

- O D negative wastage of less than 4%.

- Sharing of usage and wastage data at Regional Transfusion Committees (RTC).

- Provision and ordering of group specific (and if appropriate O D positive) phenotyped red cells (including those where additional specific requirements are needed e.g. irradiated) where possible.