Scottish National Blood Transfusion Service
Policy Record

Ref: NATP CLIN 004 02
Cat: Clinical

Title:

POLICY ON THE RECOMMENDATIONS FOR THE SELECTION OF RED CELL COMPONENTS FOR PATIENTS WITH RED CELL ALLOANTIBODIES

Statement:

This policy outlines the approach to be adopted in order to select and test red cell components for patients with clinically significant red cell alloantibodies.

Full details of the recommendations for selection of suitable components for this type of patient are given overleaf.

Policy Agreement	CGSC: N/A – minor changes	Board: N/A
Supersedes Policy Ref:	NATP CLIN 10 004 01	
Date Of Implementation:	15th December 2017	

INTRODUCTION

Currently approximately 4-6% of patient samples sent to the Blood Transfusion Laboratory for Blood Grouping and Antibody Screening are found to have either a detectable or historical red cell alloantibody. With few exceptions, red cell antibodies that are potentially clinically significant are those which are reactive in the indirect antiglobulin test (IAT), performed at 37^{o}C.

POLICY

In order to provide appropriate transfusion support to patients found to have a red cell alloantibody, Red Cell Components are to be selected and tested in accordance with Table 1 (overleaf).

Where possible it is recommended that red cell components of the same ABO blood group as the patient should be selected. If these are not available then ABO compatible units should be used. It is also good practice to provide D matched units were possible.

Patients with anti-D who are ccddee (rr) should receive rr K negative units; patients with other Rh antibodies should be additionally matched for C, c, E and e to prevent further alloimmunisation, provided that this does not impede effective transfusion support.

For all clinically significant antibodies (see first section of the table) red cells should be selected that have been phenotyped and found to be negative for the relevant antigen. Antigen negative units should also be selected when a clinically significant antibody has previously been identified but cannot be detected or identified in the current sample.

In complex situations medical advice should be sought in order to select the most appropriate component.

TABLE 1

Selection and Testing of Red Cell Components for Patients With common and rare red cell alloantibodies

Antigen-negative red cells

Anti-A, -B, -A,B
Anti-M (currently or historically active by IAT) –S, -s, -U
All Rh antibodies (except anti-C^w)
Anti-Lu^b, Lu3
Kell antibodies (including anti-K, -k –Kp^b , -Js^a, -Js^b, -Ku) but not anti-Kp^a, -Ul^a and K17)
All Duffy antibodies (anti-Fy^a, -Fy^b, -Fy3, -Fy5
All Kidd antibodies (anti-Jk^a, -Jk^b, -Jk3)
Anti-Wr^b
Anti-Sc1
Anti-Co^a
Anti-H (in O_h individuals)
Anti-Kx
Allo anti-I (active at 37^0C)
Anti-P, -PP1P^k
Anti-Vel. –AnWj

Red cells compatible by IAT at 37^0C

Anti-A_1
Anti-N (active at 37^0C), -En^a, antibodies to low frequency MNS antigens (anti-Mi^a)
Anti-P1 (active at 37^0C)
Anti-Lu^a
Anti-C^w
Anti-Le^a, -Le^b, -Le^{a+b}
Anti-Kp^a, Ul^a, -K17
Anti-Wr^a
Anti-Yt^b
Anti-Xg^a
Anti-Do^a, -Do^b
Anti-Di^a
Anti-Co^b
Anti-H/HI in para-Bombay, use ABO identical
Anti-HI (in patients with common ABO phenotypes)
Anti-In^a
Auto anti-I

Serologically least incompatible red cells, but antigen-negative red cells for strong examples of the antibody

Antibodies to other (not anti-Lu^b or Lu3) high frequency Lutheran antigens
Anti-Yt^a
Anti-Gy^a, -Hy, -Jo^a
Cromer antibodies
Anti-In^b
Anti-Lan, -At^a, Jr^a
Anti-Di^b

ABO/D compatible, least incompatible red cells

Anti-LW^a, -LW^{ab} (use D-)
Chido/Rodgers antibodies
Gerbich antibodies
Knops antibodies
Anti-JMH
Anti-Er^a
Anti-LKE
Anti-Emm, -PEL, -ABTI
Anti-Sd^a avoid Sd(a^{++}) donors
Anti-Sc3
Anti-Co3
Anti-Ok^a
Anti-MAM

References

The Clinical Significance of Blood Group Antibodies
Daniels et al 2002.
Transfusion Medicine 12: 287-95

Blood Group Antibodies and their Clinical Significance in Transfusion Medicine
Poole & Daniels 2007
Transfusion Medicine Reviews 21(1): 58-71

BCSH Guidelines for pre-transfusion compatibility procedures in blood transfusion laboratories, 2012