

Full house Rh antibodies- providing blood

Or “Ask the Audience”



Case 1: Transfused patient

- Patient transfused 2 weeks prior
- Rh phenotype mixed field
- Weak DAT+
- Anti-E detected
- Eluate negative
- Hospital historic A+, RCI A+

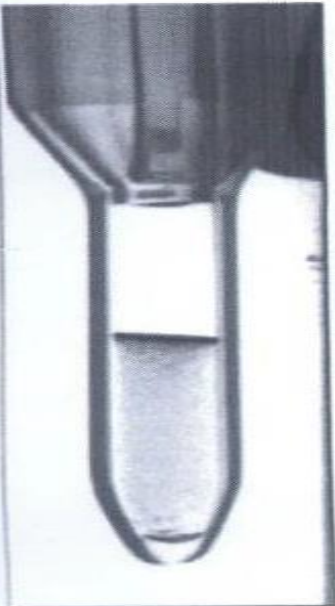


PH-1000 1100110.
Phenotype: C,c,E,e,K,ctl (DiaClon) (5011)

19/09/2015 16:56 verified by:



Anti-C
50110.5206/20.05/466275
Reaction comment:



Current results

Anti-C	Anti-c	Anti-E	Anti-e	Anti-K	Ctl	Anti-A	Anti-B	Anti-D VI
DP	+++	DP	++++	++	-	+++	-	+++

Result
A Rh D positive

ABO: ABS:

Phenotype: DAT:

Rhesus-D: Auto ctrl.:

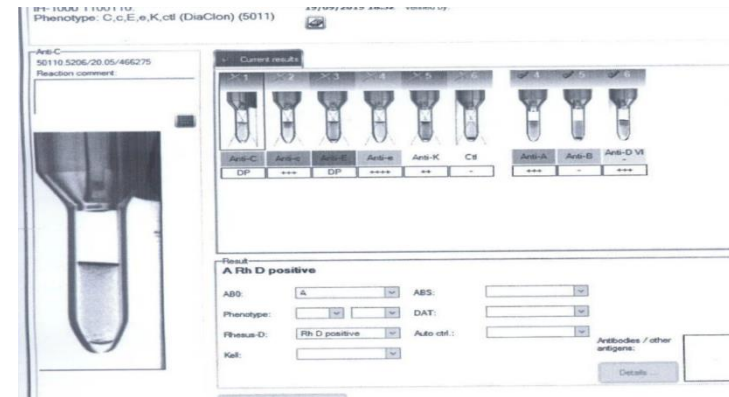
Kell:

Antibodies / other antigens:

Details ...

Would you..?

- A) Select A + E- K-
- B) Select A+ K –
- C) Select A+ C- E- K-
- D) Select A- (CDE-) K-



Case 2: Surgical Patient



- 40 yr old female for surgical procedure
- Patient O+ c-, E-, K- Cw-
- Patient has IAT and enzyme IAT active anti-Cw
- No other alloantibodies detected

Would you select

- A) O+ c-,E-,K- Cw-
- B) O+ c-,E- K- xm comp
- C) O+ K- xm comp
- D) Send to RCI



BSH guidelines state

- 7.10.4. Patients with **other Rh antibodies** should be additionally matched for C, c, E and e in order to prevent further Rh allo immunisation, provided this does not impede delivery of effective transfusion support
- Our policy is to only select ABO D and K compatible (units are xm compatible) based on table 4... Which only specifies C,D,E,c and e.

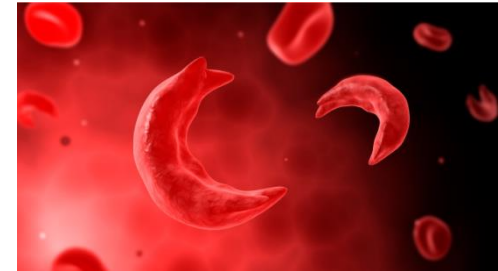
Rh antibody	Probable genotype/phenotype of patient	Donor red cell (Rh) selection
Anti-D	rr (ccddee)	D- C- E- (rr)
	r'r (Ccddee)	D- C- E- (rr)
	r''r (ccddEe)	D- C- E- (rr)
Anti-E	R ₁ R ₁ (CCDee)	c- E- (R ₁ R ₁)
	R ₁ r (CcDee)	E-
	R ₀ r or R ₀ R ₀ (ccDee)	C- E- (R ₀ or rr)
	rr (ccddee)	D- C- E- (rr)
	r'r (Ccddee)	D- E- (rr)
Anti-C	R ₂ R ₂ (ccDEE)	C- e- (R ₂ R ₂)
	R ₂ r (ccDEe)	C-
	R ₀ r or R ₀ R ₀ (ccDee)	C- E- (R ₀ or rr)

Same case but patient has additional anti-E

- A) O+ c-,E-,K- Cw-
- B) O+ c-,E- K- xm comp
- C) O+ K- xm comp
- D) Send to RCI



Case 3 : Sickle Exchange



- Sickle patient , no allo antibodies
- Group O+
- Extended phenotype done c-,E-,K-,Fya-b- Jka-
- Exchange units required (HbS-, < 7 days)

Do you...

- A) Select O+ K-
- B) O+ C- E- K-
- C) O- CDE- K-
- D) O + C- E- Fya-b- Jka-
- E) O- CDE- K- Fya-b- Jka-



BSH Guideline 7.18. Patients with sickle cell disease

- *7.18.3. As a minimum, red cells should be matched for Rh and K antigens.*
- *7.18.4. R0 blood should be selected for patients who are R0 **if available**, otherwise rr.*
- *Ideal world, issue fully matched red cells.*

Case 4: Auto, No No

- AIHA patient
- Multi-transfused
- A RhD+ c-E-K-
- Auto anti-C+e



Case 4: Auto, No No

Would you xm

A) C-,e-,K-

or

B) c-,E-,K-





Ok then....

What if transfusion frequency has increased and patient reportedly haemolysing?

What if not maintaining an increment following trx of c-E-K- units ?

Case 5: Must be Nuts?

- Patient requiring urgent 6 unit transfusion out of hours
- A+ E- K-
- RCI identified anti-N active by IAT
- Recommendation is xm compatible , antigen neg not required. (BSH)
- Who would...

Must be Nuts!

Ask for

A) A+ (just order more)

B) A+ N- (See if Hospital services notice)

C) A+ N- Historic (not on the bag but saves me driving into Sheffield, spending an hour typing the bag, you paying an oncall charge ,and the patient gets transfused 2 hours faster).....

Case 6:..And finally!



- Post BMT O+ to A+
- Group: weak dual population with anti-A
- DAT 1+ : IgG and C3d
- BioRad IAT: looks like anti-E with 2+ auto
- Rh phenotype inconclusive but “looks” like c-,E-
- 1 unit O+ c-,E- (R1R1) K- issued as compatible

Getting worse..

- DAT: 5+ IgG, 1+ IgA, 4+ IgM, 1+ C3c, 4+ C3d (control neg)
- IAT 3+ pan reactive
- Non-papainised adsorption ..all alloantibodies excluded..

But

- Previous anti-E not detected
- Apparent anti-C appeared.



So... Hb 59 need 2 units asap

- A) Issue O+ c- E- K- (but these are 2+ incompatible)
- B) Issue O CDE- K- (compatible xm)

Bear in mind , previous anti-E, newly formed anti-C (could be auto or allo)

Patient still showing signs of incomplete engraftment in the ABO group

New information

- Genotype predicts c-,E- K- , advised by consultant
- Anti-C now confirmed as Auto

So

A) Switch back to c-,E-,K

Or

B) Continue with CDE- K-