

AIHA CASE #6

Case study by Jim Perkins, M.D. (© 2009)



History: The patient was a 52 year old obese man with myasthenia gravis, hypertension, diabetes mellitus, and hypercholesterolemia, admitted with dyspnea and chest pain. Angiography demonstrated severe 3 vessel coronary artery disease, and he was scheduled for bypass grafting. A type-and-screen was ordered.

ABO and Rh Typing

<A	<B	A1 cells	B cells	6% alb	<D	<D/AHG	CCC	Interp
4+	4+	w+	w+		4+			
Prewarmed technique		0	0					

Antibody Screen

	Gel
SCI	0
SCII	0

Direct Antiglobulin Test (tube method)

	Poly	IgG	<C3
AHG	0		
CCC.	2+		

Intial Panel (LISS/tube method)

Lot #46729		Rh system						Kell						Duffy		Kidd		Lewis		P	MNSs				Lutheran		Xg	Other Typings	LISS				
Cell	Rh	D	C	c	E	e	V	K	k	Kp ^a	Kp ^b	Js ^a	Js ^b	Fy ^a	Fy ^b	Jk ^a	Jk ^b	Le ^a	Le ^b	P1	M	N	S	s	Lu ^a	Lu ^b	Xg ^a		Cell	IS	37°C	AHG	CC
1	R1R1	+	+	0	0	+	0	0	+	0	+	0	+	0	+	0	+	+	0	+	+	0	+	+	0	+	+	+	1	w+	0	0	2+
2	R1wR1	+	+	0	0	+	0	+	+	0	+	0	+	+	+	+	+	+	0	+	+	+	0	+	0	+	0	C ^w	2	w+	0	0	2+
3	R2R2	+	0	+	+	0	0	0	+	0	+	0	+	0	+	0	+	0	+	+	0	+	0	+	0	+	+	3	0	0	0	2+	
4	Ror	+	0	+	0	+	0	0	+	0	+	+	+	0	0	+	0	+	0	+	+	+	+	0	+	+	0	He+	4	w+	0	0	2+
5	r'r	0	+	+	0	+	0	0	+	0	+	0	+	+	+	+	0	+	0	+	+	+	+	+	0	+	0	5	w+	0	0	2+	
6	r''r	0	0	+	+	+	0	0	+	0	+	0	+	0	+	+	+	0	+	+	+	0	+	+	0	+	0	6	1+	0	0	2+	
7	rr	0	0	+	0	+	0	+	+	0	+	0	+	0	+	+	0	0	+	+	+	0	+	0	+	+	7	1+	0	0	2+		
8	rr	0	0	+	0	+	0	0	+	0	+	0	+	0	+	0	0	0	0	+	+	0	0	+	0	+	0	8	1+	0	0	2+	
9	rr	0	0	+	0	+	0	0	+	0	+	0	+	0	+	0	+	0	+	+	+	+	+	0	0	+	Lu:14	9	w+	0	0	2+	
10	R1R1	+	+	0	0	+	0	0	+	0	+	0	+	+	+	+	+	+	0	+	+	0	+	+	0	+	+	Mg+,Lu:14	10	1+	0	0	2+
11	r''r	0	0	+	+	+	0	0	+	0	+	0	+	+	+	0	+	0	+	+	0	+	0	+	0	+	0	Co ^b +, I-,Sc:2	11	0	0	0	2+
Patient																												AC	w+	0	0	2+	

Selected cells

		Rh system						Kell						Duffy		Kidd		Lewis		P	MNSs				Lutheran		Xg	Other Typings	4 drops plasma/saline suspended RBCs			
Cell	Rh	D	C	c	E	e	V	K	k	Kp ^a	Kp ^b	Js ^a	Js ^b	Fy ^a	Fy ^b	Jk ^a	Jk ^b	Le ^a	Le ^b	P1	M	N	S	s	Lu ^a	Lu ^b	Xg ^a		Cell	IS	RT	
1	R1wR1	+	+	0	0	+	0	+	+	0	+	0	+	0	+	+	+	0	+	+	0	+	0	+	0	+	+	+	C ^w	1	0	0
2	r''r	0	0	+	+	+	0	0	+	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	0	+	+		2	0	0	
3	rr	0	0	+	0	+	0	0	+	0	+	0	+	0	0	+	+	+	0	+	0	+	0	+	0	+	0		3	0	0	
4	R1wR1	+	+	0	0	+	0	0	+	0	+	0	+	+	0	+	+	+	0	+	0	+	0	+	0	+	+	C ^w	4	0	0	
Patient																												AC				

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Antigen Phenotype

	Rh system				Kell				Duffy		Kidd		Lewis		MNSs														
	C	E	c	e	K	k	Kp ^a	Js ^a	Fy ^a	Fy ^b	Jk ^a	Jk ^b	Le ^a	Le ^b	S	s	M	N	PI	I	H	A ₁							
Patient																	4+												
Pos control																	4+												
Neg Control																	0												

Questions:

1. What antibody is present? Is this an autoantibody or an alloantibody? Why were the selected cells run?
2. Why was antibody identification performed in this case? Is that problem resolved?
3. Why might the DAT be negative? Can you relate this to any other findings?
4. How would you select RBCs for transfusion in this case?
5. Can you relate the presence of these abnormalities to anything else in the patient's history?