

**AIHA CASE #7** Case Study by Jim Perkins MD (©, 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 vessal 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+			?

**Antibody Screen**

	Gel
OI	0
OII	0

**Direct Antiglobulin Test**

	Poly	IgG	<C3
AHG	0		
CCC	2+		

**Intial Panel**

Lot #46729		Rh system						Kell						Duffy		Kidd		Lewis		P	MNSs				Lutheran		Xg	Other	LISS				
Cell	Rh	D	C	c	E	e	V	K	k	Kp <sup>a</sup>	Kp <sup>b</sup>	Js <sup>a</sup>	Js <sup>b</sup>	Fy <sup>a</sup>	Fy <sup>b</sup>	Jk <sup>a</sup>	Jk <sup>b</sup>	Le <sup>a</sup>	Le <sup>b</sup>	P1	M	N	S	s	Lu <sup>a</sup>	Lu <sup>b</sup>	Xg <sup>a</sup>	Typings	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 <sup>w</sup>	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	+	+	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	0	+	+		7	1+	0	0	2+
8	rr	0	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	+	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	+	Co <sup>b</sup> +, 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				
Cell	Rh	D	C	c	E	e	V	K	k	Kp <sup>a</sup>	Kp <sup>b</sup>	Js <sup>a</sup>	Js <sup>b</sup>	Fy <sup>a</sup>	Fy <sup>b</sup>	Jk <sup>a</sup>	Jk <sup>b</sup>	Le <sup>a</sup>	Le <sup>b</sup>	P1	M	N	S	s	Lu <sup>a</sup>	Lu <sup>b</sup>	Xg <sup>a</sup>	Typings	Cell	IS	RT	
1	R1wR1	+	+	0	0	+	0	+	+	0	+	0	+	0	+	+	+	0	+	+	0	+	0	+	0	+	+	C <sup>w</sup>	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	+	0		3	0	0
4	R1wR1	+	+	0	0	+	0	0	+	0	+	0	+	+	0	+	+	+	0	+	0	+	0	+	0	+	+	C <sup>w</sup>	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 <sup>a</sup>	Js <sup>a</sup>	Fy <sup>a</sup>	Fy <sup>b</sup>	Jk <sup>a</sup>	Jk <sup>b</sup>	Le <sup>a</sup>	Le <sup>b</sup>	S	s	M	N	PI	I	H	A <sub>1</sub>						
<b>Patient</b>																	4+											
<b>Pos control</b>																	4+											
<b>Neg Control</b>																	0											

**QUESTIONS**

1. Why was antibody identification performed in this case?
  
2. What antibody is present? Is this an autoantibody or an alloantibody? Why were the selected cells run?
  
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?