

ABID CASE # 6 Case Study by Jim Perkins MD (©, 2009)

History: This patient was a 53 year old nulliparous woman admitted for a D&C. She had received 6 units of RBCs between 6 and 7 weeks earlier for anemia related to menorrhagia. At that time her antibody screen was negative.

ABO and Rh Typing

<A	<B	A1 cells	B cells	6% alb	<D	<D/AHG	CCC	Interp
0	0	4+	4+		4+			O pos

Antibody Screen

	Gel
OI	w+
OII	1+

Direct Antiglobulin Test

	Poly	IgG	<C3
AHG	vw+, mf	vw+, mf	vw+, mf
CCC			

Initial panel

Lot #8RA126	Rh system	Kell											Duffy		Kidd		Xg	Lewis		MNSs					P	Lutheran		Other						
Cell	Rh	D	C	E	c	e	V	K	k	Kp ^a	Kp ^b	Js ^a	Js ^b	Fy ^a	Fy ^b	Jk ^a	Jk ^b	Xg ^a	Le ^a	Le ^b	S	s	M	N	PI	Lu ^a	Lu ^b	Typings	Cell	Gel				
1	R1wR1	+	+	0	0	+	0	0	+	0	+	0	+	+	0	0	+	0	0	+	0	+	0	+	0	0	+	0	+	C ^w	1	0		
2	R1R1	+	+	0	0	+	0	+	+	0	+	0	+	+	+	0	+	+	0	+	0	+	0	+	+	0	+		2	0				
3	R2R2	+	0	+	+	0	0	0	+	+	+	0	+	0	+	+	+	+	0	+	0	+	0	+	+	+w	0	+	3	0				
4	Ror	+	0	0	+	+	+	0	+	0	+	0	+	0	0	+	0	+	0	0	+	+	+	+	0	+s	0	+	4	0*				
5	r'r	0	+	0	+	+	0	0	+	0	+	0	+	0	+	+	0	0	+	0	+	0	+	0	+	0	+		5	vw+				
6	r''r	0	0	+	+	+	0	0	+	0	+	0	+	0	+	+	0	+	0	0	0	+	0	+	0	0	+		6	0*				
7	rr	0	0	0	+	+	0	+	+	0	+	0	+	0	+	+	+	+	0	+	+	+	0	+	+w	0	+		7	0				
8	rr	0	0	0	+	+	0	0	+	0	+	0	+	+	+	+	0	0	+	0	+	+	+	0	0	0	+		8	w+				
9	rr	0	0	0	+	+	0	0	+	0	+	0	+	0	+	+	0	0	0	+	+	0	+	0	+	0	+		9	1+				
10	rr	0	0	0	+	+	0	0	+	0	+	0	+	+	0	0	+	+	0	+	0	+	0	+	+	0	+		10	0				
11	R1R1	+	+	0	0	+	0	0	+	0	+	0	+	0	+	+	0	+	+	0	0	+	+	+	+s	0	+		11	w+				
Patient																													AC					

Additional panel

Lot# 8RB124	Rh system	Kell											Duffy		Kidd		Xg	Lewis		MNSs					P	Lutheran		Other					
Cell	Rh	D	C	E	c	e	V	K	k	Kp ^a	Kp ^b	Js ^a	Js ^b	Fy ^a	Fy ^b	Jk ^a	Jk ^b	Xg ^a	Le ^a	Le ^b	S	s	M	N	PI	Lu ^a	Lu ^b	Typings	Cell	Gel			
1	rr	0	0	0	+	+	0	+	+	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	0	0	+		1	0			
2	rr	0	0	0	+	+	0	0	+	0	+	0	+	+	0	0	+	+	0	+	+	+	0	+	+	0	+		2	0			
3	rr	0	0	0	+	+	0	0	+	0	+	0	+	+	+	0	0	0	0	+	+	0	+	0	+w	0	+		3	vw+			
4	R2R2	+	0	+	+	0	0	0	+	0	+	0	+	+	0	+	+	+	0	+	+	+	+	0	+s	+	+		4	vw+			
5	R2R2	+	0	+	+	0	0	0	+	0	+	0	+	+	+	+	0	0	0	+	0	+	+	+	+w	0	+		5	0			
6	R2R2	+	0	+	+	0	0	0	+	0	+	0	+	+	+	0	+	0	0	+	+	+	+	+	0	0	+	Di ^a	6	0			
7	R1Rw1	+	+	0	0	+	0	0	+	0	+	0	+	+	+	0	+	0	+	0	+	+	+	+	+	0	+		7	0			
8	R1R1	+	+	0	0	+	0	0	+	0	+	0	+	+	0	0	+	0	0	+	+	0	+	0	+w	0	+		8	0*			
9	RzR1	+	+	+	0	+	0	0	+	0	+	0	+	0	+	0	+	+	+	0	0	+	0	+	+w	0	+		9	0			
10	r'r	0	+	0	+	+	0	0	+	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	+	0	+		10	0			
11	R1R2	+	+	+	+	+	0	+	0	0	+	0	+	+	+	+	+	+	+	0	+	0	+	+	0	+	+		11	0			
Patient																													AC				

ABID CASE #6

1. What is the probable identity of this antibody? Is it alloantibody or autoantibody?
2. Is any further workup needed to prove it?
3. What is the probable source of the immunizing stimulus in this case? Why is the DAT positive?
4. Comment on the varying strength of reactivity of the serum in the initial panel and in the various test systems used.
5. Does this antibody cause hemolytic transfusion reactions? Hemolytic disease of the newborn?
6. How would we select compatible blood for this patient? What percentage of donors are expected to be compatible with this recipient?
7. What is the biochemical nature of the antigen? (Review the relevant blood group system, including disease associations and racial differences in antigen prevalence.)