ABID CASE #9 Case Study by Jim Perkins MD (©, 2009)

History: This 27 year old P7G6 woman was admitted for delivery. She had never been transfused. At the time of a spontaneous abortion 4 years earlier her antibody screen was positive due to anti-Le^a.

ABO and Rh Typing

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

Antibody Screens

	Gel	4 drops serum, saline susp. RBCs			
		I.S.	37°	AHG	CCC
OI	vw+	w+	0	0	2+
OII	0	1+	2+	vw+	
AC		0	0	0	2+

DAT

	Poly
AHG	0
CCC	2+

Initial panel

Lot #31570		Rh system						Kell						Duffy		Kidd		Lewis		P	MNSs				Lutheran		Xg	Other Typings		4 drops, saline				
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°	<IgG		
1	R1R1	+	+	0	0	+	0	+	+	0	0	0	+	+	0	+	0	0	0	+	+	+	0	+	0	+	+		1	0	0	0		
2	R1wR1	+	+	0	0	+	0	0	+	0	+	0	+	+	+	0	+	0	+	0	+	0	+	0	0	+	+	C^w+	2	w+	0	0		
3	R2R2	+	0	+	+	0	0	0	+	0	+	0	+	+	+	+	+	0	0	+	+	0	0	+	0	+	+	Yt^b+	3	0	0	0		
4	Ror	+	0	+	0	+	+	0	+	0	+	0	+	0	0	+	+	0	+	+	+	0	0	0	0	+	0		4	2+	0	0		
5	r'r	0	+	+	0	+	0	0	+	0	+	0	+	0	+	+	+	+	0	+	0	+	0	+	0	+	+	Lu:14	5	2+	2+	vw+		
6	r"r	0	0	+	+	+	0	0	+	0	+	0	+	+	0	+	+	0	+	0	+	0	0	+	0	+	0		6	0	0	0		
7	rr	0	0	+	0	+	0	+	+	0	+	0	+	0	+	+	+	0	+	0	+	+	+	+	+	+	+	Co^b+	7	2+	0	0		
8	rr	0	0	+	0	+	0	0	+	0	+	0	+	+	0	+	0	0	+	+	0	+	0	+	0	+	+		8					
9	R1R1	+	+	0	0	+	0	+	+	0	+	0	+	+	+	0	+	0	0	+	+	+	0	+	0	+	+		9	0	0	0		
10	R1R1	+	+	0	0	+	0	0	+	0	+	0	+	0	+	0	+	+	0	+	+	0	+	+	0	+	+		10	3+	3+	v+		
11	RzR2	+	+	+	+	0	0	0	+	0	0	0	+	+	+	+	0	0	+	0	+	+	+	+	0	+	0		11					
12	r"r	0	0	+	+	+	0	0	+	0	+	0	+	0	+	+	0	0	+	0	0	+	0	+	0	+	+	Co^b+	12					
13	rr	0	0	+	0	+	0	+	+	0	+	0	+	0	+	0	+	+	0	0	+	0	0	+	0	+	0		13	2+	2+	vw+		
14	rr	0	0	+	0	+	0	0	+	0	+	0	+	+	+	+	+	0	+	+	+	+	+	0	+	+	+		14					
15	rr	0	0	+	0	+	+	0	+	0	+	0	+	0	0	+	+	0	+	+	+	0	+	+	0	+	0		15					
16	rr	0	0	+	0	+	0	0	+	+	+	0	+	+	+	+	0	0	+	+	+	0	+	0	0	+	+	Yt^b+	16					
Patient																													AC					

Lewis neutralization

4 drops saline	Neutralized serum				Control		
	IS	37°	AHG		IS	37°	AHG
OI	0	0	0		w+	0	0
OII	0	0	0		2+	2+	0

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	P1	I	H	A_1						
Patient													0	0														
Pos control													4+	3+														
Neg Control													0	0														

ABID #9

1. What is the probable identity of this antibody(s)?

2. Is any further workup needed to prove your hypothesis?

3. What is the probable source of the immunizing stimulus in this case?

4. Why did the technologist choose to use the 4 drop serum/saline technique?

5. Does this antibody(s) cause hemolytic transfusion reactions? Hemolytic disease of the newborn?

6. What percentage of donors are expected to be compatible with this recipient? How would we select blood for her?

7. What is the biochemical nature of the antigen? (Review the relevant blood group system, including disease associations and racial differences in antigen prevalence.)